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MOTHS.—Vol. III.

BY

G. F. HAMPSON.

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PREFACE.

In the present volume the two remaining subfamilies of the *Noctuidæ*, the *Focillinæ* and *Deltoidinæ*, are described. The latter consists of slenderly built, semidiurnal, grass-frequenting forms which show far greater diversity of structure in both generic and secondary sexual characters than the other groups of the *Noctuidæ*. It exhibits a gradual development from forms with straight palpi fringed with hair above, such as *Hypena*, which is closely allied to the *Sarrothripinæ* and to the ancestors of the *Noctuidæ* and *Nolinæ*, through forms with oblique palpi, to a group possessing palpi of an extremely curved sickle-shaped type: from this group arose the stouter built more typically Noctuiform and nocturnal *Focillinæ* and *Quadrifinæ*.

The *Epicopiidæ*, *Uraniidæ*, *Epiplemidæ*, and *Geometridæ* belong to the group of families in which vein 5 of the fore wing arises from the middle of the discocellulars. The first three are closely allied and might perhaps be regarded as subdivisions of one family, the *Uraniidæ*, which is most nearly related to the *Bombycidæ* and *Saturniidæ*, some early form of the same stock having also given rise to the *Geometridæ* and *Notodontidæ*.

In the *Geometridæ* Mr. Meyrick's excellent division into subfamilies has been followed, and his classification will almost certainly remain as the basis of any future work on the subject. His definitions of the European genera also are found to hold to a great extent for Indian forms, but least so in the *Boarmiinæ*, which is far the most difficult subfamily to classify, owing to the great diversity of structure that is found in closely allied forms and to a large amount of individual variation. It will require a considerably extended study, embracing the forms of all the zoological regions, before a really permanent classification can be arrived at.

The *Orthostixinæ* and *Œnochrominæ* contain the most primitive forms in the family; the former has vein 8 of the hind wing connected with the cell by a bar near the base, the remains of one of the lost subcostals. From the *Orthostixinæ* have arisen (1) the *Acidaliinæ* and *Geometrinæ*, by vein 8 of

the hind wing becoming widely separated from the cell except near the base; (2) the *Larentiinæ*, by the bar migrating to near the end of the cell, or by vein 8 anastomosing with the cell to near its end; (3) the *Boarmiinæ*, by vein 5 of the hind wing becoming aborted, vein 8 being free or retaining the bar in the lowest forms, such as *Abraxas* and its allies.

In the original scheme of the work it was estimated that it would be possible to include most of the subfamilies of the *Pyralidæ* within the limits of the third volume, but the great activity that has prevailed among students of Indian Moths and the large number of species that have been described during the four years that the volumes have been in preparation have made this impossible. The publication, however, of M. Ragonot's first volume on the *Phycitinæ*, a group of Moths that, owing to the ravages committed by many of the species among forest-trees, corn, cotton, tobacco, &c., is of more economic importance than any other, except perhaps the silk-producing *Bombycidæ* and *Saturniidæ*, and the approaching completion of his second volume, which will include the *Galleriinæ*, have made it possible to study the subject as a whole. Thus the postponement of the *Pyralidæ* is hardly to be regretted if at some future time a fourth volume is sanctioned containing the whole of that family and also an Appendix bringing the rest of the work up to date. This would complete the subject down to the families for which Lord Walsingham has the whole of the material in course of preparation for publication.

I have to thank Dr. O. Staudinger for his courtesy in sending me the types of all the species described by Mr. Moore from the Atkinson Collection, of which no specimens exist in England, and for having thus enabled me to determine the affinities of many species I had otherwise no means of classifying. The whole of the gentlemen mentioned in the preface to my first volume have also continued their assistance in the freest and most generous manner. In addition Mr. G. C. Dudgeon has first placed at my disposal, and then presented to the British Museum, the results of his many years' collecting in Sikhim and Bhután; and, lastly, M. L. de Nicéville, the author of the invaluable volumes on the Butterflies of India, has sent me many new and rare species from Tenasserim.

G. F. HAMPSON.

December 1st, 1894.

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* A printed list of names for cabinet use, without descriptions or scientific value.

† Dated 1816; but it contains references to species of Ochsenheimer's published in 1824, and no mention is made of it in a work of Hübner's published in 1823, treating of systems that had appeared since his 'Sammlung'; so the probable date is between 1824 and 1830. The genera erected are in no way described beyond vague references to the colours, and are excluded except where properly characterized by later authors.

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GOVERNMENT

Family NOCTUIDÆ
(continued).

Subfamily FOCILLINÆ.

Palpi sickle-shaped, with the 2nd joint curved and reaching vertex of head or above it, the 3rd usually long. Fore wing with vein 6 from angle of cell; 8 given off from 7 and anastomosing with 9, which is given off from 10 to form the areole. Hind wing with veins 3, 4 and 6, 7 from angles of cell; 5 fully developed. Legs with the tibiæ and tarsal joints short and stout.

Larvæ semiloopers, with the first or first two pairs of abdominal prolegs almost always rudimentary or absent.

Key to the Genera.

A. Hind wing with vein 5 from well above lower angle of cell.
  a. Fore wing with the outer margin more or less angled.
    a'. Thorax with no crest.
      a^2. Palpi usually of moderate length and without tufts of hair ...... 4. ZETHES, p. 7.
      b^2. Palpi of moderate length, the 2nd and 3rd joints with tufts of hair . 6. LOPHARTHRUM, p. 18.
      c^2. Palpi long, the 3rd joint with a tuft of hair on inner side* ...... 5. EGNASIA, p. 15.
    b'. Thorax with a high crest behind the collar .... 7. HYPERLOPHA, p. 19.
  b. Fore wing with the outer margin not angled.
    a'. Metathorax and abdomen without tufts.
      a^2. Fore wing broad and rounded. Large stoutly-built moths ...... 8. CAPNODES, p. 20.
      b^2. Fore wing narrower, the apex somewhat acute. Small slenderly-built moths .... 10. RAPARNA, p. 24.
      c^2. Fore wing with the apex rounded, the outer margin oblique ...... 1. HYPOSEMANSIS, p. 2.
    b'. Metathorax and abdomen with slight tufts .... 9. DIOMEA, p. 23.
B. Hind wing with vein 5 from close to lower angle of cell.
  a. Fore wing with the outer margin angled; hind wing with the costa curved at base, the outer margin slightly excised below apex .... 11. CEPHENA, p. 28.

---

* In *E. sinuosa* the outer margin of fore wing is not angled.

b. Fore wing with the outer margin not or hardly angled.
a'. Fore wing with the apex rounded .. 12. Avitta, p. 28.
b'. Fore wing with the apex rectangular.
a². Hind wing with the outer margin rounded .... 2. Mecodina, p. 3.
b². Hind wing with the outer margin angled .... 3. Psimada, p. 7.
c'. Fore wing with the apex acute and somewhat produced.............. 13. Dierna, p. 29.

Genus **HYPOSEMANSIS**, nov.

Type, *H. singha*, Guen.
Range. Sikhim; Assam; Calcutta.
Palpi with the 2nd joint reaching above vertex of head, the 3rd long; antennæ of male minutely ciliated; thorax and abdomen without tufts; tibiæ fringed with hair, the mid tibiæ with long tufts from the base. Fore wing with the costa arched; the apex rounded; the outer margin oblique. Hind wing with the outer margin oblique and slightly crenulate; vein 5 from middle of discocellulars.

2704. **Hyposemansis singha**, *Guen. Noct.* iii, p. 372; *C. & S.* no. 2817.
Zethes amynoides, *Moore, Lep. Atk.* p. 181, pl. 6, fig. 2; *C. & S.* no. 2712.

Dull fuscous. Fore wing with indistinct subbasal and antemedial lines whitish on costal area; a waved and excurved postmedial line arising from a white patch on costa. Hind wing with traces of dark medial and pale submarginal lines; cilia of both

Fig. 1.—*Hyposemansis singha*, ♂. ½.

wings with slight pale patches. Underside ochreous, variegated with pale and dark red-brown; fore wing with pale spot in cell and lunule on discocellulars; both wings with irregularly waved ante- and postmedial lines; hind wing with the outer area mostly ochreous.

Rests with the wings folded over the back like a butterfly.

Hab. Sikhim; Khásis; Margharita, Assam; Calcutta. *Exp*. 42 millim.

Genus **MECODINA.**

Mecodina, *Guen. Noct.* iii, p. 372 (1852).
Nasaya, *Moore, Lep. Atk.* p. 173 (1882).
Seneratia, *Moore, Lep. Ceyl.* iii, p. 202 (1884)
Pantura, *Moore, Lep. Ceyl.* iii, p. 247.
Aræognatha, *Hmpsn. Ill. Het.* ix, p. 129 (1893)

Type, *M. lanceola*, Guen.

Range. Japan; Himalayas, Assam, Malabar, Ceylon, Burma: Andamans, Borneo.

Palpi sickle-shaped, the 2nd joint reaching vertex of head, the 3rd long and naked. Thorax and abdomen smoothly scaled; mid and hind tibiæ slightly fringed with hair on outer side. Fore wing with the apex rectangular; the areole usually narrow. Hind wing with vein 5 from close to lower angle of cell.

SECT. I. (*Mecodina*). Antennæ of male of moderate length, with short cilia; fore wing long and narrow.

*2705. **Mecodina lanceola,** *Guen. Noct.* iii, p. 373, pl. 24, fig. 5; *C. & S.* no. 2818.

♂. Red-brown; the wings suffused with purplish or slate-colour, with a fine brown-edged light marginal line. Fore wing with indistinct waved subbasal, antemedial, postmedial, and submarginal lines; a dark spot at centre of cell; the reniform narrow and slate-coloured, with brown edges; a semicircular brown apical patch. Hind wing with indistinct nearly straight medial line, and two waved postmedial lines with a dentate line beyond them.

Hab. Sylhet. *Exp.* 44 millim.

SECT. II. (*Aræognatha*). Antennæ of male of moderate length, with long cilia.

A. *Fore and hind wings with the outer margin not excised towards outer and anal angles.*

2706. **Mecodina cineratia,** *Butl. Ill. Het.* iii, p. 27, pl. 47, fig. 4.
Egnasia costipannosa, *Moore, Lep. Atk.* p. 184; *C. & S.* no. 2735.

Dark greyish brown. Fore wing with indistinct curved antemedial line; a black speck in cell and indistinct striga from costa above it; the outer half of wing, except the apical area, suffused with dark brown; a black and brown line on discocellulars; an indistinct curved lunulate postmedial line and irregularly waved submarginal line with large triangular deep chocolate patch on it at costa, two specks below middle and one at outer angle. Hind wing with traces of two antemedial lines; a sinuous

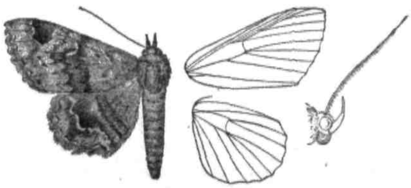

Fig. 2.—*Mecodina cineratia*, ♂. 1/1.

postmedial line excurved at middle, and with deep chocolate suffusion inside it from middle to inner margin; a dark spot near anal angle. Underside with two waved lines to fore wing, and three to hind wing.

Some specimens are more uniform dark grey, with the chocolate triangular patch and suffusion inside postmedial line less prominent.

Hab. Japan; N.W. Himalayas; Sikhim; Khásis. *Exp.* 38–46 millim.

2707. **Mecodina analis**, *Swinh. Trans. Ent. Soc.* 1890, p. 263, pl. 8, fig. 5.

♀. Differs from *cineratia* in being purplish fuscous without the brown tinge. Fore wing with dark marks on the lines at costa; no black suffusion on disk or spots in and at end of cell or on middle of submarginal line and at outer angle. Hind wing without black suffusion or black patches on the submarginal line, except at outer angle. Underside with pale lunule at end of cell, and pale postmedial line to both wings; hind wing with medial and postmedial waved lines on dark ground.

Hab. Khásis; Rangoon. *Exp.* 38 millim.

2708. **Mecodina placida**, *Moore, Lep. Atk.* p. 194; *C. & S.* no. 2981.

Fuscous brown. Fore wing with indistinct antemedial, postmedial, and submarginal waved lines; the postmedial highly excurved round cell, then bent inwards to below the obscure reniform mark. Hind wing with indistinct medial and postmedial waved lines. Underside of both wings with indistinct cell-spot and sinuous postmedial and submarginal lines.

Hab. Sikhim; Khásis. *Exp.* 38 millim.

2709. **Mecodina umbrosa**, *Hmpsn. Ill. Het.* ix, p. 129, pl. 167, fig. 2.

♂. Differs from *placida* in having the costa clouded with black; the lines double and more prominent; the spot on discocellulars slightly reddish. Hind wing with diffused medial indistinct line; the postmedial line blacker, more dentate, and prominent.

The colour may be pale brown clouded with black, or nearly uniform dark purplish brown.

Hab. Khásis; Ceylon. *Exp.* 38 millim.

2710. **Mecodina subviolacea**, *Butl. Trans. Ent. Soc.* 1881, p. 581.
Thyridospila virgata, *Swinh. P. Z. S.* 1889, p. 415.

Violaceous grey or dull red-brown. Fore wing with indistinct antemedial dark dentate line; a medial band diffused outwards; a postmedial waved and excurved line; a large triangular chocolate patch on the costa with pale edges; a series of white submarginal specks. Hind wing with ante- and postmedial ill-defined lines, the latter often with pale outer edge towards inner margin.

Hab. Japan; N.W. Himalayas; Margharita, Assam. *Exp.* 36 millim.

2711. **Mecodina agrestis**, *Swinh. Trans. Ent. Soc.* 1890, p. 262.
Bertula ethnica, *Swinh. Trans. Ent. Soc.* 1890, p. 263, pl. 8, fig. 11.

♀. Dark purplish grey. Fore wing with indistinct subbasal, antemedial, medial, and postmedial waved red-brown lines; the outer area suffused with grey-brown, and with traces of a submarginal paler waved line. Hind wing with traces of antemedial and medial oblique waved lines; a postmedial diffused line with a waved line beyond it, and more or less pronounced ochreous patch at anal angle.

Hab. N. Canara; Rangoon. *Exp.* 30 millim.

2712. **Mecodina odontophora**, *Swinh. MS.*

♂. Head rufous; thorax and abdomen fuscous, the latter with the anal tuft fulvous. Fore wing grey-brown with a fulvous tinge; two indistinct waved antemedial lines; a black speck in cell; a nearly straight medial line; the reniform conspicuous; two curved postmedial lines highly dentate below vein 6, the inner line very indistinct; an oblique fulvous streak across the apex, and patch on costa at apex; a lunulate marginal line. Hind wing with the basal half suffused with grey; the outer half rufous, with traces of two waved lines and some pale brown patches; the margin and cilia grey with fine dark lines.

Hab. Khásis. *Exp.* 46 millim.

B. *Fore and hind wings with the outer margin excised towards outer and anal angles.*

2713. **Mecodina albodentata**, *Swinh. MS.*

♂. Differs from *cineratia* in there being no black suffusion on disk of fore wing; the reniform spot and postmedial line indistinct; the patch on costa of fore wing produced as an oblique band to middle of outer margin, and with the black spots below it replaced by a slender silvery-white highly dentate line. Hind wing with the lines indistinct and not marked with black; a grey patch surrounded by black-brown suffusion on outer margin near anal angle. Underside with two small white patches on costa of fore wing towards apex.

Hab. Sikhim; Khásis. *Exp.* 44 millim.

SECT. III. (*Nasaya*). Antennæ of male short and minutely ciliated.

2714. **Mecodina hepatica**, *Moore, Lep. Atk.* p. 173; *C. & S.* no. 2319.

♂. Head, thorax, and fore wing liver-red, the last irrorated with greenish grey, especially on costal area and disk; abdomen and hind wing dark fuscous.

Hab. Sikhim; Rangoon. *Exp.* 30 millim.

SECT. IV. Antennæ of male with strong fascicles of cilia.

2715. **Mecodina oxydata**, *Swinh. MS.*

Brownish liver-colour. Fore wing with antemedial waved line on a diffused ochreous band; dark specks in and at end of cell, the former with striga above it on costa; a crenulate medial line with a diffused ochreous band beyond it on which is the crenulate postmedial line; an indistinct sinuous submarginal line and marginal series of specks. Hind wing fuscous; underside ochreous, with cell-speck and postmedial line.

Hab. Khásis. *Exp.*, ♂ 34, ♀ 36 millim.

SECT. V. (*Pantura*). Antennæ of male short and serrate.

2716. **Mecodina ophiusalis**, *Wlk. Cat.* xvi, p. 173; *Moore, Lep. Ceyl.* iii, pl. 177, fig. 4; *C. & S.* no. 3007.

Red-brown; the head and collar dark chestnut. Fore wing with a speck at base; sinuous antemedial and medial lines oblique towards inner margin; a black lunule on discocellulars often broken up into spots; a postmedial line oblique below costa and angled above inner margin, with a nearly straight pale line beyond it; a chocolate quadrate patch on costa before apex; a sinuous submarginal line.

Hab. Ceylon. *Exp.* 42 millim.

SECT. VI. (*Seneratia*). Antennæ of male almost as long as fore wing, and with long curved spines to the joints as well as cilia.

2717. **Mecodina præcipua**, *Wlk. Cat.* xxxiii, p. 1056; *Moore, Lep. Ceyl.* iii, pl. 173, figs. 2, 2 *a*; *C. & S.* no. 2775.
Sympis turbida, *Moore, P. Z. S.* 1877, p. 611; *C. & S.* no. 2762.

Violaceous grey; the head bright chestnut; collar red-brown at base. Fore wing with subbasal, ante- and postmedial indistinct waved lines, the last excurved beyond cell; a medial indistinct diffused line; a large subtriangular chocolate patch with pale edges on the costa before apex; a series of submarginal white and dark specks. Hind wing with indistinct antemedial, postmedial, and submarginal waved lines; the outer area suffused with dark red-brown.

The form *turbida* from the Andamans is without the triangular chocolate patch on fore wing.

Hab. Nilgiris; Ceylon; Andamans. *Exp.* 46–54 millim.

2718. **Mecodina ruficeps**, n. sp.

♀. Fuscous with a slight purplish tinge; the head rufous. Fore wing with pale ante- and postmedial patches; waved ante- and postmedial lines; an oblique ill-defined medial black band; a black speck at lower angle of cell; an indistinct sinuous submarginal line;

a marginal crenulate line. Hind wing with pale patch beyond end of cell; an ill-defined antemedial narrow black line; a waved medial line and indistinct sinuous submarginal line.

Hab. Nágas, 3000 feet (*Doherty*). *Exp.* 46 millim. Type in coll. Elwes.

Genus **PSIMADA.**

Psimada, *Wlk. Cat.* xv, p. 1827 (1858).

Type, *P. quadripennis*, Wlk.

Range. China; Malabar; Ceylon; Burma; Andamans.

Differs from *Mecodina* in the 3rd joint of the palpi being shorter; the antennæ of male ciliated, the medial portion thickened by a ridge of scales on upper surface; hind wing with the outer margin angled at middle.

2719. **Psimada quadripennis,** *Wlk. Cat.* xv, p. 1828; *Moore, Lep. Ceyl.* iii, pl. 170, fig. 2; *C. & S.* no. 2629.

Head and collar red-brown; thorax paler; abdomen fuscous. Fore wing with the basal half pale red-brown, the outer dark with a purplish tinge; traces of antemedial, medial, and postmedial waved lines and submarginal series of white specks; a large triangular dark red-brown patch on costa at apex. Hind wing dark, with a purplish tinge on basal half; the outer half redder, with a large semicircular pale patch on outer margin towards anal angle. Underside with the apex of fore wing whitish and with a submarginal oblique line.

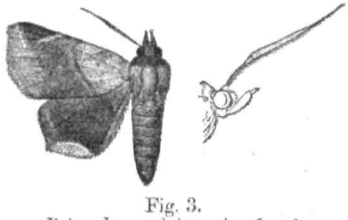

Fig. 3.
Psimada quadripennis, ♂. ½.

Hab. N. China; Canara; Ceylon; Burma; Andamans. *Exp.* 42 millim.

Genus **ZETHES.**

Zethes, *Ramb. Ann. Soc. Ent. Fr.* 1833, p. 29.
Cultripalpa, *Guen. Noct.* iii, p. 332 (1852).
Marmorinia, *Guen. Noct.* iii, p. 370.
Saraca, *Wlk. Cat.* xxxiv, p. 1190 (1865).
Tamba, *Wlk. Char. Undescr. Het.* p. 94 (1869).
Obdora, *Wlk. Char. Undescr. Het.* p. 95.

Type, *Z. insularis*, Ramb., from Europe.

Range. Mediterranean subregion; Japan; China; and throughout the Oriental region.

Palpi thickly scaled, the 2nd joint obliquely upturned to above vertex of head, the 3rd usually long. Thorax and abdomen usually smoothly scaled; tibiæ moderately hairy. Fore wing with the apex acute; the outer margin more or less angled at middle. Hind wing with vein 5 from below middle of discocellulars.

SECT. I. Outer margin of both wings slightly angled antennæ ciliated.

A. *Fore wing not produced at apex.*

a. *Cilia of both wings non-crenulate.*

a'. *Palpi with the 2nd and 3rd joints of moderate length.*

a². *Abdomen with no dorsal tufts.*

2720. **Zethes angulina**, *Guen. Noct.* iii, p. 351; *C. & S.* no. 2763.
Thermesia arenacea, *Wlk. Cat.* xxxiii, p. 1056; *C. & S.* no. 2767.
Thermesia retrahens, *Wlk. Cat.* xxxiii, p. 1063; *C. & S.* no. 2772.
Thermesia consocia, *Wlk. Cat.* xxxiii, p. 1057.

Pale red-brown. Fore wing with antemedial pale line acutely angled below costa; a pale speck in cell and line on discocellulars; a postmedial line very highly angled beyond cell: some pale specks on costa towards apex; submarginal and almost marginal series of indistinct dark specks. Hind wing with dark speck in cell; pale straight medial line; traces of postmedial and almost marginal series of specks.

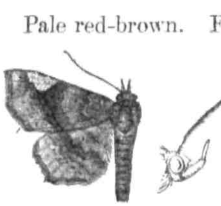

Fig. 4.
Zethes angulina, ♂. 1.

Hab. Sylhet. *Exp.* 36 millim.

2721. **Zethes flavibrunnea**, n. sp.

♀. Differs from *angulina* in being yellow-brown. Fore wing with the antemedial line obsolete; minute black specks at middle and end of cell; the postmedial line not quite so sharply angled; no white specks on costa, and the veins not whitish on marginal area of either wing.

Hab. E. Pegu, 4500 feet (*Doherty*). *Exp.* 40 millim. Type in coll. Elwes.

2722. **Zethes duplicilinea**, n. sp.

Head and thorax fuscous black; abdomen red-brown. Fore wing brown, suffused with rufous in parts; the basal area fuscous; a curved subbasal line; an antemedial line angled in the cell; traces of a spot in the cell and lunule at end of it; an indistinct medial line excurved round cell; a double postmedial line angled below the costa, its outer portion greyish and met by a dark streak from apex; an indistinct dentate submarginal line. Hind wing with traces of an antemedial line; a speck at end of cell; a rufous patch on the disk, crossed by a double postmedial line on a grey band; traces of a dentate submarginal line.

Bornean and Javan specimens have the thorax chestnut; a Sikhim male is purplish fuscous, with dark brown suffusion and grey patch on costa of fore wing before apex.

Hab. Sikhim; Nágas; Borneo; Java. *Exp.* 40 millim. Type in B. M.

2723. **Zethes vaga**, *Wlk. Cat.* xxxiii, p. 1057; *C. & S.* no. 2744.
Egnasia cinerea, *Butl. Ill. Het.* vii, p. 89, pl. 135, fig. 1.

Fuscous brown and grey; the medial and apical areas of fore wing and the whole of hind wing, except the costal area, suffused with yellowish red-brown; underside with the ground-colour ochreous, the markings rufous. Fore wing with short subbasal line; sinuous diffused antemedial line; indistinct spot in cell and on discocellulars; traces of a medial line; a postmedial line excurved beyond cell; a dentate submarginal ochreous line with diffused black on its inner side. Hind wing with black spot at end of cell; a sinuous postmedial line; an irregularly dentate submarginal ochreous line with diffused black on its inner side.

Hab. Dharmsála; Sikhim; Bhután; Sylhet. *Exp.* 40 millim.

2724. **Zethes tipula**, *Swinh. A. M. N. H.* (6) xii, p. 265.

♂. Dark reddish brown, suffused with purplish grey. Fore wing with indistinct antemedial, medial, postmedial, and submarginal lines; the first waved, the second and third angled below costa, and with the space between them darker, the third with a white line on it from costa to angle, the fourth sinuous. Hind wing with traces of antemedial, medial, and submarginal lines. Underside with the lines more distinct; the costa of fore wing grey.

Hab. Shán States. *Exp.* 26 millim.

2725. **Zethes perturbans**, *Wlk. Cat.* xv, p. 1525; *C. & S.* no. 2717.
Egnasia trimantesalis, *Wlk. Cat.* xvi, p. 220; *C. & S.* no. 2725.
Saraca pannosa, *Moore, Lep. Atk.* p. 182; *C. & S.* no. 2724.

Red-brown, irrorated with grey and suffused with fuscous. Fore wing with traces of subbasal line; diffused dark antemedial line; a very indistinct reniform spot on a rufous patch; a sinuous postmedial line excurved beyond cell, and with a large grey triangular patch on the costa beyond it; an indistinct dentate submarginal line. Hind wing with indistinct antemedial line; a medial line slightly angled beyond cell; traces of a dentate submarginal line; some rufous suffusion on disk. Underside suffused with rufous; the costa of fore wing greyish.

Hab. Japan; Sikhim; Sylhet; Nágas; Burma. *Exp.* 38 millim.

2726. **Zethes sphæriphora**, *Moore, P. Z. S.* 1867, p. 79; *C. & S.* no. 2723.

♀. Greyish red-brown. Fore wing with waved antemedial indistinct line; a comma-shaped semihyaline spot in the cell, and slight lunule at end of it; a diffused fuscous medial line excurved beyond cell; a curved crenulate postmedial line, with a chocolate triangular patch beyond it on costa continued as a diffused band to inner margin. Hind wing with indistinct medial, postmedial, and submarginal crenulate lines, the marginal area rufous. Underside suffused with grey.

Hab. "Bengal." *Exp.* 44 millim.

2727. **Zethes renalis**, *Moore, Lep. Ceyl.* iii, p. 194, pl. 172, fig. 12; *C. & S.* no. 2718.

♂. Head and thorax rufous; abdomen fuscous, with ochreous anal tuft. Fore wing grey-brown, suffused with rufous, especially at base and apex; traces of a subbasal pale line; an antemedial oblique line angled below costa; the reniform dark, with pale outline; the postmedial line oblique from costa to vein 4, where it is very highly angled, then crenulate to inner margin; a greyish patch from costa to its angle; a marginal series of dark specks. Hind wing dark fuscous, the inner area with a reddish tinge; a marginal series of dark specks. Underside pale.

Hab. Ceylon. *Exp.* 30 millim.

b². *Abdomen with dorsal tufts on proximal segments.*

2728. **Zethes pulcherrima**, *Butl. Ill. Het.* iii, p. 67, pl. 57, figs. 5–9.

Head pale brown; thorax pink and yellow; abdomen fuscous with a white basal band. Fore wing with the basal area and the costal area to near apex pink, the rest of wing fuscous; indistinct yellowish subbasal and antemedial lines; a black speck at lower angle of cell; a postmedial line angled below the costa, then obliquely sinuous to near middle of inner margin; a purple patch with dark marks on it from the end of pink area to above middle of outer margin; a whitish or grey patch on the costa before apex; an indistinct submarginal whitish line. Hind wing with the base pink; traces of a medial line; a submarginal series of white specks and fulvous spot above anal angle.

Hab. Japan; N. China; Simla. *Exp.* 28 millim.

2729. **Zethes pictipennis**, n. sp.

♂. Differs from *pulcherrima* in having the rosy-brown area of fore wing more extensive, reaching the apex and embracing two minute black specks at end of cell; the postmedial line less angled below costa, then much less oblique; the submarginal line with some white on each side of it towards inner margin. Hind wing much more variegated; the medial and postmedial lines much more distinct; a series of white lunules on inner area, and black specks on the apical area just inside the margin.

Hab. Trivandrum (*Fergusson*). *Exp.* 30 millim. Type in B. M.

b′. *Palpi with the 2nd and 3rd joints much longer.*

2730. **Zethes talusalis**, *Wlk. Cat.* xvi, p. 219; *C. & S.* no. 2743.

♀. Dull ochreous brown. Fore wing with minute white speck in cell and two at end of it; an indistinct fulvous submarginal band angled outwards at middle; a crenulate marginal line. Hind wing with indistinct nearly straight postmedial fulvous band and crenulate marginal line.

Hab. Moulmein. *Exp.* 34 millim.

b. *Cilia of both wings crenulate.*

2731. **Zethes shivula,** *Guen. Noct.* iii, p. 372; *C. & S.* no. 2816.
Zethes xylochroma, *Wlk. Cat.* xv, p. 1525; *C. & S.* no. 2721.
Egnasia grisangula, *Hmpsn. Ill. Het.* viii, p. 90, pl. 147, fig. 3.

Differs from *perturbans* in the postmedial line of fore wing and medial line of hind wing being dentate; the costal grey patch smaller and placed further from the apex.

Shivula is rufous brown, with a grey apical patch to fore wing, and a purplish band beyond the postmedial line of hind wing, whilst *grisangula* is much more uniform fuscous brown.

Hab. Sylhet; Nilgiris. *Exp.* 34 millim.

B. *Fore wing produced at apex.*

2732. **Zethes inornata,** *Wlk. Cat.* xxxiii, p. 848; *C. & S.* no. 3202.

Olive-brown, thickly irrorated and suffused with grey; a very highly angled antemedial line with an indistinct and still more highly angled line arising from the same point on the costa; the orbicular grey; the reniform with grey outline; a postmedial line very highly angled below the costa, where it is joined by an oblique line from the costa and a streak from the apex; traces of a submarginal grey line. Hind wing with antemedial and medial lines; traces of a submarginal grey line. Underside with the costa of fore wing whitish.

Hab. Simla; Murree. *Exp.*, ♂ 42, ♀ 46 millim.

Sect. II. Fore and hind wings with the outer margin more angled.

A. *Cilia of both wings non-crenulate; antennæ minutely ciliated.*

a. *Palpi with the 3rd joint not thickly clothed with hair.*

2733. **Zethes hesperoides,** *Guen. Noct.* iii, p. 330.
Zethes hæsitans, *Wlk. Cat.* xv, p. 1524; *C. & S.* no. 2715.
Zethes umbrifera, *Swinh. Trans. Ent. Soc.* 1890, p. 253.

Dark fuscous red-brown. Fore wing with indistinct curved waved antemedial line; an indistinct reniform spot; a waved and curved postmedial line, with a large dark brown patch beyond it on the costa; some pale specks on costa before apex; an indistinct dentate submarginal line. Hind wing with indistinct antemedial, postmedial, and submarginal lines; a grey apical patch with dark spot on it. Underside with the postmedial line of both wings crenulate and with grey suffusion inside it.

One specimen is without the dark costal patch of fore wing and grey apical patch of hind wing.

Hab. Ganjam; Burma. *Exp.* 38 millim.

b. *Palpi with the 3rd joint thickly clothed with hair.*

2734. **Zethes costalis**, *Moore, P. Z. S.* 1883, p. 28, pl. 6, fig. 10; *C. & S.* no. 2752.

♂. Head and collar fulvous; thorax pale, the metathorax reddish black; abdomen fuscous. Fore wing red-brown, clouded with fuscous, the costal area ochreous white; a white speck in cell; the reniform rufous, with white outline; a diffused fuscous medial line; a postmedial indistinct dentate line with a series of pale specks on it; a submarginal white line angled at vein 4; an almost marginal series of dark specks; the veins of outer area ochreous. Hind wing rufous, clouded with fuscous; a speck at end of cell; an indistinct diffused medial line and dentate postmedial line with pale speck on it; a nearly straight whitish submarginal line; the veins of outer area ochreous.

Hab. Andamans. *Exp.* 40 millim.

B. *Cilia of both wings crenulate.*

a. *Costa of fore wing not excised beyond middle.*

a'. *Antennæ of male minutely ciliated.*

2735. **Zethes usurpatalis**, *Wlk. Cat.* xvi, p. 219; *C. & S.* no. 2720.
Focilla decolor, *Wlk. Cat.* xxxiii, p. 1029; *Moore, Lep. Ceyl.* iii, pl. 172, fig. 8; *C. & S.* no. 2714.
Tamba submicacea, *Wlk. Char. Undescr. Het.* p. 94; *C. & S.* no. 2833.

Pinkish grey. Fore wing with subbasal and antemedial pale lines; a speck in cell; two indistinct waved medial fuscous lines; a large pale reniform spot; a double postmedial line highly angled beyond cell; a rufous patch on outer margin below apex; a submarginal series of dark specks. Hind wing with speck in cell; double postmedial line recurved near inner margin; traces of a lunulate submarginal line; a series of dark specks near the margin.

Hab. Ceylon; Burma. *Exp.* 40 millim.

2736. **Zethes lineifera**, *Wlk. Cat.* xxxiii, p. 1070; *Moore, Lep. Ceyl.* iii, pl. 172, fig. 5; *C. & S.* no. 2716.
Zethes sondaicus, *Snell. Tijd. v. Ent.* 1877, p. 38, pl. 2, fig. 17.

Pale ochreous, irrorated with fuscous; thorax suffused with fuscous. Fore wing with the basal area suffused with olive-green; an antemedial black line recurved to inner margin near base; some fuscous suffusion on median nervure; a double postmedial line highly angled beyond cell and slightly waved, with some fuscous suffusion beyond it; a waved submarginal line angled inwards at vein 6; some rufous below apex; a submarginal series of black specks and marginal line. Hind wing with straight medial line; traces of a postmedial lunulate line with green spots inside it at middle and near anal angle; a submarginal series of black specks and marginal line.

Hab. Ceylon; Sumatra. *Exp.* 36 millim.

2737. **Zethes nigrilinea,** *Wlk. Char. Undescr. Het.* p. 95; *C. & S.* no. 2832.
Zethes palliolata, *Swinh. Trans. Ent. Soc.* 1890, p. 252, pl. 8, fig. 10.

♀. Differs from *lineifera* in the basal area of fore wing being rufous; the subbasal and antemedial lines not oblique towards inner margin; the postmedial line straighter, less acutely angled, and with another line beyond it joining the submarginal waved line, which has some whitish lunules on it. Hind wing with the double waved line filled in with rufous, and with purplish suffusion beyond it; no green spots. The black streaks on median nervure and veins 3 and 4 of fore wing are sometimes absent.

Hab. Rangoon; Andamans. *Exp.* 36 millim.

2738. **Zethes punctistigma,** n. sp.

♀. Differs from *nigrilinea* in the basal area of fore wing being ochreous, with the subbasal and antemedial lines indistinct; a medial line slightly angled above inner margin; the reniform large, with two dark specks on it; the postmedial line not angled, but with two sinuations beyond the cell and well separated from the irregularly dentate submarginal line; a large purplish subapical patch on outer margin.

Hab. Nágas, 2000 feet (*Doherty*). *Exp.* 34 millim. Type in coll. Elwes.

2739. **Zethes reduplicalis,** *Wlk. Cat.* xxxiv, p. 1179; *C. & S.* no. 2741.

♀. Pale reddish brown. Fore wing with irregularly waved antemedial line; small ring-spot in cell; large indistinct dark-outlined reniform spot with dark centre; an oblique band from apex to middle of inner margin consisting of red-brown lines and suffusion; an irregular submarginal line and marginal series of brown and white specks. Hind wing with antemedial line; a medial band of three lines; an indistinct submarginal line and marginal series of brown and white specks.

Hab. Moulmein; Rangoon; Bassein. *Exp.* 28 millim.

2740. **Zethes vinolia,** n. sp.

♂. Pale rufous. Fore wing with indistinct angled antemedial line; black specks in and at end of cell; a highly angled and slightly sinuous postmedial pale line, with dark edges touching a violet-white submarginal band with rufous outer edge, which is produced to an angle at middle of margin; a marginal series of dark specks. Hind wing with two dark specks at end of cell; nearly straight postmedial pale line with dark edge; a straight submarginal violet-white band with rufous outer edge; a marginal series of dark specks.

Hab. Sikhim, 3000 feet (*Möller*). *Exp.* 32 millim. Type in coll. Elwes.

b′. (Cultripalpa). *Antennæ of male with very long cilia ; palpi with the 2nd and 3rd joints longer, the 2nd straighter.*

2741. **Zethes partita**, *Guen. Noct.* iii, p. 332 ; *C. & S.* no. 2730.
Cultripalpa indistincta, *Moore, Lep. Atk.* p. 183 ; *C. & S.* no. 2729.
Cultripalpa trifasciata, *Moore, Lep. Atk.* p. 184, pl. 6, fig. 1 ; *C. & S.* no. 2731.

Head, thorax, and abdomen clothed with grey, ochreous, and brown scales. Fore wing with the basal half rufous ; an indistinct irregularly waved double antemedial grey line ; a white speck in cell and pale-edged lunule on discocellulars ; a dark postmedial line with grey edges, irregularly sinuous from costa to vein 2, then recurved to lower angle of cell and oblique to inner margin ; the outer area pale brown, with dark striæ and indistinct series of submarginal fuscous spots, two near apex being prominent ; a whitish marginal line. Hind wing with the basal area rufous ; an indistinct subbasal line ; a black speck on discocellulars ; a sinuous medial line with grey edges ; the outer area pale brown, with dark striæ and traces of submarginal fuscous band ; a marginal white line ; the cilia chestnut, with the tips dark.

♀. More ochreous in tone ; in the form *trifasciata* the postmedial line of the fore wing is minutely dentate beyond the cell and the apical area rufous.

Hab. Bhután ; Assam ; Calcutta ; Bassein. *Exp.*, ♂ 34, ♀ 36 millim.

2742. **Zethes ocellata**, *Moore, Lep. Ceyl.* iii, p. 195, pl. 174, fig. 4 ; *C. & S.* no. 2740.

♂. Dull red-brown. Fore wing with traces of five waved lines angled below the costa ; the reniform grey, with dark centre. Hind wing with traces of a dark antemedial band, on which is a black-centred grey spot on the discocellulars ; indistinct waved postmedial and submarginal lines ; both wings with lunulate marginal line. Underside slightly suffused with grey.

(The type has the palpi wanting.)

Hab. Ceylon. *Exp.* 22 millim.

b. *Costa of fore wing slightly excised beyond middle.*

2743. **Zethes igneola**, *Swinh. Trans. Ent. Soc.* 1890, p. 254.

Dark brown, irrorated with grey. Fore wing with indistinct subbasal and antemedial rufous lines ; an orange spot in cell and lunule at end of it ; a sinuous line just beyond the middle ; a postmedial line much bent outwards beyond the cell, then sinuous to inner margin, its costal part white ; an orange apical patch and an irregularly dentate submarginal line. Hind wing with rufous lunule at end of cell ; traces of postmedial and submarginal white lines, with a fulvous and black band between them ; cilia with a dark line through them. Underside with the costal area of fore wing and basal area of hind wing suffused with white.

Hab. Rangoon ; Tenasserim. *Exp.* 32 millim.

SECT. III. Fore wing with the outer margin very much excurved at middle, then crenulate to outer angle. Hind wing with deep crenulations between anal angle and vein 4. Palpi with the 3rd joint short.

2744. **Zethes cingalensis,** *Wlk. Cat.* xxxiv, p. 1178; *Moore, Lep. Ceyl.* iii, pl. 172, fig. 10; *C. & S.* no. 2734.

Red-brown. Fore wing with antemedial line angled below the costa; a narrow medial chocolate band angled below costa, then oblique to inner margin; a black lunule on discocellulars; an irregularly sinuous postmedial line excurved below costa and with a chocolate patch on the costa beyond it and two white specks above vein 4; an irregular submarginal line. Hind wing with oblique narrow chocolate antemedial band; a spot at end of cell; an indistinct sinuous postmedial line and dentate submarginal line.

Hab. Ceylon. *Exp.* 28 millim.

Genus **EGNASIA**.

Egnasia, *Wlk. Cat.* xvi, p. 216 (1858).
Acharya, *Moore, Lep. Atk.* p. 185 (1882).
Matella, *Moore, Lep. Ceyl.* iii, p. 196 (1885).

Type, *E. ephyrodalis*, Wlk.

Range. W. Africa; throughout India, Ceylon, and Burma; Borneo; Java.

Palpi with the 2nd joint very long and reaching far above vertex of head, the 3rd with a tuft of hair on the inner side. Antennæ usually almost simple in male. Thorax and abdomen smoothly scaled. Tibiæ moderately hairy. Fore wing with the apex acute; the outer margin angled at middle *. Hind wing with the outer margin crenulate; vein 5 from below middle of discocellulars.

SECT. I. Fore wing with the outer margin angled. Hind wing with the outer margin excised between veins 4 and 6.

2745. **Egnasia ephyrodalis,** *Wlk. Cat.* xvi, p. 217; *C. & S.* no. 2736.
Egnasia khasiana, *Moore, Lep. Atk.* p. 184; *C. & S.* no. 2737.
Egnasia binorbiculata, *Moore, Lep. Ceyl.* iii, p. 194, pl. 172, fig. 6; *C. & S.* no. 2732.
Gracillodes ludiana, *Feld. Reis. Nov.* pl. 120, fig. 25; *C. & S.* no. 2738.

Yellowish brown. Fore wing with indistinct sinuous antemedial line; a hyaline spot in cell; an irregular hyaline spot on discocellulars composed of conjoined spots; an indistinct postmedial line excurved beyond cell and with a crenulate line beyond it; cilia white towards outer angle. Hind wing with a hyaline lunulate mark on rufous patch at end of cell; a nearly straight medial line and crenulate postmedial line; cilia white at apex and towards anal angle. Underside suffused with grey.

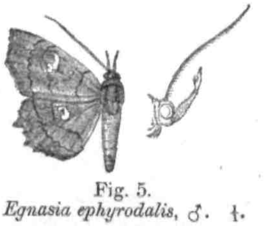

Fig. 5.
Egnasia ephyrodalis, ♂. ¹⁄₁.

Hab. Sylhet; Nágas; Nilgiris; Ceylon; Burma. *Exp.* 38 millim.

* Except in *sinuosa.*

2746. **Egnasia rectilineata**, *Swinh. MS.*

Differs from *ephyrodalis* in the outer line of both wings on underside being straight instead of crenulate, retracted to costa of fore wing and inner margin of hind wing. The colour may be either reddish ochreous or greyish fuscous. Fore wing with the outer margin dentate below apex.

Hab. Khásis; Java. *Exp.* 42 millim.

2747. **Egnasia participalis**, *Wlk. Cat.* xvi, p. 218; *C. & S.* no. 2747.
Matella euphrona, *Swinh. Trans. Ent. Soc.* 1891, p. 151, pl. 8, fig. 16.

Differs from *ephyrodalis* in being yellower; fore wing with the hyaline mark at end of cell lunulate; the outer line of both wings slightly sinuous instead of crenulate, and in hind wing arising from near the apex.

Hab. Ganjam; Ceylon. *Exp.* 28 millim.

SECT. II. Hind wing with the outer margin evenly crenulate.

2748. **Egnasia accingalis**, *Wlk. Cat.* xvi, p. 218; *Moore, Lep. Ceyl.* iii, pl. 172, fig. 7; *C. & S.* no. 2745.
Matella caduca, *Swinh. P. Z. S.* 1885, p. 470, pl. 28, fig. 9; *C. & S.* no. 2746.

Differs from *participalis* in being bright ochreous, with slight black suffusion; the sinuous outer line evenly curved on both wings, not arising from near apex of hind wing; cilia without white.

Hab. Throughout W. and S. India; Ceylon. *Exp.*, ♂ 32, ♀ 34 millim.

2749. **Egnasia polia**, *Hmpsn. Ill. Het.* viii, p. 90, pl. 147, fig. 4.

♀. Fuscous grey. Fore wing with the outer half of costal area fulvous; an ill-defined medial curved line and lunulate submarginal line; a grey patch and some white specks on costa before apex; cilia fulvous, with a black line through them. Hind wing with black spot at end of cell; a medial nearly straight rufous line; an indistinct postmedial line with fulvous and black band beyond it; a submarginal lunulate line; cilia fulvous, with black line through them.

Hab. Nilgiris; Ceylon. *Exp.* 28 millim.

SECT. III. Outer margin of fore wing excised from apex to middle; of hind wing excised between veins 4 and 6.

2750. **Egnasia fasciata**, *Moore, Lep. Atk.* p. 181, pl. 6, fig. 20; *C. & S.* no. 2722.
Zethes mopsa, *Swinh. Trans. Ent. Soc.* 1890, p. 251.

Differs from *participalis* in being much browner. Fore wing with the spot in cell lunulate; two dark specks at end of cell instead of the hyaline lunule; the postmedial line more angled below costa. Hind wing without the hyaline spot at end of cell; the oblique submarginal line developed into a reddish band.

Hab. Sikhim; Rangoon; Nágas. *Exp.* 26 millim.

2751. **Egnasia tripuncta**, *Swinh. MS.*

♂. Differs from *fasciata* in the postmedial line of fore wing being much more excurved beyond the cell. Hind wing with a conspicuous black speck on the antemedial line in the cell; no medial line; the postmedial line pale and curved, with a blackish patch beyond it near anal angle.

Hab. Khásis. *Exp.* 26 millim.

SECT. IV. Fore wing with the apex more produced; the outer margin of both wings highly angled and crenulate.

A. *Antennæ of male almost simple.*

2752. **Egnasia castanea,** *Moore, Lep. Atk.* p. 184; *C. & S.* no. 2733.
Egnasia morosa, *Moore, Lep. Atk.* p. 185, pl. 6, fig. 4; *C. & S.* no. 2739.

♀. Dark chocolate-brown with a purplish tinge. Fore wing with traces of subbasal and antemedial lines; the orbicular and reniform small, indistinct, and greenish yellow; three superposed greenish-yellow spots below end of cell; a slightly waved postmedial line excurved beyond end of cell; a submarginal series of white specks. Hind wing with pale speck at end of cell; a sinuous medial line, with some dark specks with yellow scales round them towards inner margin; a submarginal series of white specks. Underside with the cell-spots grey; the postmedial line whitish, and angled below costa of fore wing; an indistinct dentate submarginal line.

The form *morosa* is darker brown.

Hab. Sikhim; Khásis. *Exp.* 42 millim.

2753. **Egnasia ochreivena,** n. sp.

♂. Pale reddish brown. Fore wing with indistinct rufous antemedial and medial lines angled below costa; a black spot in cell, and a buff and reddish lunule with white edges at end of it, its upper angle much produced towards apex and a dark line with bluish-white scales on it recurved from it to costa; an ochreous submarginal waved line bent inwards at vein 3; the veins of outer area ochreous. Hind wing with a dark speck at end of cell; a purplish patch with a few white scales on it beyond the cell and another from its lower angle to anal angle; a submarginal ochreous line bent inwards at vein 3; the veins of outer area ochreous; some white scales on the margin.

Hab. Sikhim (*Elwes*). *Exp.* 42 millim. Type in coll. Elwes.

B. (Acharya). *Antennæ of male thickened and distorted near base, pectinated on the outer side and with long bristles on the inner side; palpi with the 2nd joint thickened by a ridge of scales, the 3rd with a tuft of long hair on inner side.*

2754. **Egnasia crassicornis,** *Moore, Lep. Atk.* p. 185, pl. 6, fig. 3; *C. & S.* no. 2753.

♂. Head and thorax dark chestnut; abdomen brown. Fore wing chestnut, with indistinct grey and black striæ; an ochreous streak below the costa from base to apex, and short oblique lines from the costa; a waved yellowish antemedial line and black-bordered postmedial line with a hyaline spot on it below end of cell; a submarginal sinuous line, with some purplish-grey specks near apex and ochreous specks at middle. Hind wing with black and grey striæ on basal area; curved subbasal and straight medial brown-bordered ochreous lines; a hyaline spot at end of cell, and waved submarginal line.

Hab. Sylhet. *Exp.* 40 millim.

SECT. V. Fore wing more produced at apex, the outer margin very oblique and not angled; cilia not crenulate.

2755. **Egnasia sinuosa,** *Moore, Lep. Atk.* p. 184; *C. & S.* no. 2748.

♂. Differs from *accingalis* in being uniform pale purplish brown without any ochreous tinge; fore wing with the hyaline specks minute.

Hab. Calcutta; Moulmein. *Exp.* 32 millim.

Genus **LOPHARTHRUM**, nov.

Type, *L. comprimens*, Wlk.

Range. Sikhim; Sylhet; Nilgiris; Andamans; Borneo.

Palpi upturned, curved and reaching above vertex of head, the 2nd and 3rd joints with thick close-set tufts of hair; antennæ minutely ciliated in male; thorax and abdomen smoothly scaled, the patagia very long in male; fore tibia of male with thick closely-set tufts of hair. Fore wing arched towards apex; both wings with the outer margin angled at middle; the cilia crenulate. Hind wing with vein 5 from near middle of discocellulars.

2756. **Lopharthrum comprimens,** *Wlk. Cat.* xv, p. 1540; *Butl. Ill. Het.* vi, pl. 112, fig. 4; *C. & S.* no. 2757.

Head and collar pinkish orange, marbled with rufous; thorax and abdomen pale red-brown, the tufts on fore legs pinkish orange and rufous; an orange-yellow dorsal patch at base of abdomen. Fore wing pale red-brown; some rufous antemedial marks; an indistinct sinuous postmedial line; some orange-yellow patches marbled with rufous on the submarginal line, which has three white lunules inside it. Hind wing with indistinct lunule at end of cell and medial line; a postmedial irregular series of orange lunules, the area beyond them

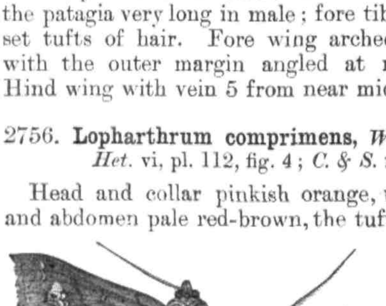

Fig. 6.
Lopharthrum comprimens, ♂. ½.

orange marbled with rufous except at apex. Underside yellow and pale reddish, with indistinct cell-spot; two postmedial and one submarginal line to each wing.

Larva brown, with black specks and striæ.

Hab. Sikhim; Sylhet; Nilgiris; Andamans; Borneo. *Exp.* 50 millim.

Genus **HYPERLOPHA**, nov.

Type, *H. cristifera*, Wlk.

Range. Nilgiris; Ceylon; Burma.

Palpi with the 2nd joint reaching above vertex of head, the 3rd long and naked; antennæ with long cilia and bristles in male; thorax with a high sharp tuft behind collar; abdomen smoothly scaled; tibiæ slightly hairy. Fore wing with the costa arched; the apex acute and produced; the outer margin angled at middle; the cilia crenulate. Hind wing with the outer margin rounded; vein 5 from near middle of discocellulars.

2757. **Hyperlopha cristifera,** *Wlk. Cat.* xxxiii, p. 1071; *C. & S.* no. 2713.
Catada epops, *Feld. Reis. Nov.* pl. 120, fig. 42.
Zethes irrorata, *Hmpsn. Ill. Het.* ix, p. 113, pl. 165, fig. 12.

♀. Pale grey; thorax with the extremity of scales brown. Fore wing with traces of seven sinuous lines; an indistinct reniform mark; a chocolate band on the inner half of submarginal line; some chocolate marks on the margin. Hind wing with traces of postmedial and submarginal lines. Underside with cell-spot, crenulate postmedial and blotched submarginal lines.

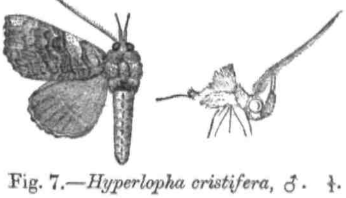

Fig. 7.—*Hyperlopha cristifera*, ♂. ½.

♂. Head and thorax thickly irrorated with red-brown; a brown patch at base of abdomen, which is fuscous. Fore wing thickly irrorated with brown; the seven lines more distinct and brown; the band on submarginal line less prominent. Hind wing fuscous.

Hab. Nilgiris; Ceylon. *Exp.* 42 millim.

2758. **Hyperlopha compactilis,** *Swinh. Trans. Ent. Soc.* 1890, p. 251, pl. 7, fig. 16.

♂. Differs from *cristifera* in the vertex of head being ochreous and red; the tuft behind collar with rufous edges. Fore wing less irrorated with brown and the markings less distinct; a large silvery patch on middle of inner area; the band on submarginal line well developed.

Hab. Thyetmyo, Burma. *Exp.* 36 millim.

Genus CAPNODES.

Capnodes, *Guen. Noct.* iii, p. 374 (1852).
Corsa, *Wlk. Cat.* xiii, p. 1101 (1857).
Saroba, *Wlk. Cat.* xxxiii, p. 1096 (1865).
Dunira, *Moore, Lep. Ceyl.* iii, p. 206 (1885).

Type, *C. anhypa*, Guen., from Brazil.

Range. Neotropical region; W. and S. Africa; Japan; throughout the Oriental region.

Palpi sickle-shaped, the 2nd joint reaching above vertex of head and tapering to extremity, the 3rd long; antennæ ciliated in male; thorax and abdomen smoothly scaled; tibiæ moderately hairy. Fore wing with the apex nearly rectangular. Hind wing with the anal angle usually truncate; vein 5 from below middle of discocellulars.

SECT. I. Palpi almost naked.

A. *Fore wing of male with no fringe of scales on costa.*

2759. **Capnodes finipalpis**, *Wlk. Cat.* xv, p. 1574; *Hampsn. Ill. Het.* ix, pl. 166, figs. 1, 8.
Capnodes maculicosta, *Wlk. Cat.* xv, p. 1608; *C. & S.* no. 2778.

♂. Bright ferruginous red; abdomen fuscous. Fore wing with a white antemedial spot on costa and specks on median nervure and vein 1; two dark specks at end of cell; a postmedial white costal spot with an indistinct dark band from it excurved round cell and with a series of white specks on it; an indistinct submarginal waved line; a marginal series of black specks. Hind wing with traces of a postmedial dark band and series of white specks; a waved submarginal line and marginal series of dark specks.

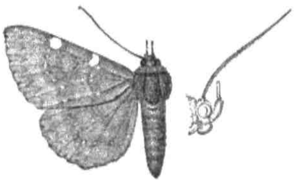

Fig. 8.
Capnodes finipalpis, ♂. ½.

♀. With fuscous costal patches on fore wing replacing the white spots.

Hab. Ceylon. *Exp.* 44 millim.

2760. **Capnodes rufescens**, *Moore, P. Z. S.* 1877, p. 612; *C. & S.* no. 2781.

♂. Purplish red. Fore wing with very ill-defined antemedial, postmedial, and submarginal maculate bright orange bands. Hind wing with similar antemedial, postmedial, and submarginal bands.

The type is in very bad condition.

Hab. Andamans. *Exp.* 34 millim.

2761. **Capnodes ceylonica**, *Wlk. Cat.* xxxiii, p. 1061; *Hmpsn. Ill. Het.* ix, pl. 166, fig. 9; *C. & S.* no. 2802.
Sanys flexus, *Moore, Lep. Atk.* p. 175; *C. & S.* no. 2764.
Capnodes cascalis, *Swinh. Trans. Ent. Soc.* 1891, p. 153, pl. 8, figs. 6, 10.

♀. Pale or dark brown; head and front of collar darker. Fore wing irrorated with black; traces of an antemedial waved line; some dark specks at end of cell; a postmedial oblique line, highly angled below costa; a dark costal patch suffused with white from the line to apex; traces of a crenulate submarginal line with white specks on it; a marginal series of dark specks. Hind wing with oblique antemedial line; traces of a crenulate postmedial line with white specks on it. A marginal series of dark specks.

Hab. Khásis; Khandála; Travancore; Ceylon. *Exp.* 28–34 millim.

2762. **Capnodes luna,** *Hmpsn. Ill. Het.* viii, p. 100, pl. 148, fig. 21.

Head and thorax red-brown, the frons tinged with pink; abdomen fuscous. Fore wing olive-green, with a red-brown patch at base; traces of pinkish antemedial, medial, and postmedial waved lines; a minute speck at middle and two at end of cell; a white subapical lunule enclosing four black specks on the margin, which is pinkish. Hind wing pale brown, with traces of waved ante- and postmedial lines; a minute speck at end of cell and series on the margin, which is pinkish. Underside slightly suffused with pink.

Hab. Nilgiris. *Exp.* 36 millim.

2763. **Capnodes maculapex,** *Hmpsn. Ill. Het.* ix, p. 116, pl. 165, fig. 18.

Head and thorax dark red-brown; abdomen pale. Fore wing brownish ochreous, with basal and large apical dark red-brown patches; traces of medial, postmedial, and submarginal waved lines. Hind wing with dark speck at end of cell and traces of waved postmedial and submarginal lines; a dark patch on inner margin above anal angle; a series of dark marginal specks to both wings.

Hab. Ceylon. *Exp.* 24 millim.

2764. **Capnodes scitula,** *Wlk. Cat.* xxxiii, p. 1061; *Moore, Lep. Ceyl.* iii, pl. 174, fig. 13; *C. & S.* no. 2777.

♂. Rufous. Fore wing with indistinct oblique subbasal and antemedial lines; a sinuous medial line; two dark specks at end of cell; a crenulate postmedial line; a submarginal white line angled outwards at middle, then waved to inner margin; a marginal series of dark specks. Hind wing with ante- and postmedial indistinct lines; dark speck in cell; waved white submarginal line and marginal series of dark specks.

Hab. Ceylon. *Exp.* 30 millim.

2765. **Capnodes lignicolor,** *Wlk. Cat.* xiii, p. 1101; *Moore, Lep. Ceyl.* iii. pl. 156, fig. 9; *C. & S.* no. 2398.

Head and abdomen fulvous; base of palpi and thorax fuscous black. Fore wing with the basal area fuscous black, a fine black

line just beyond it; the medial area pale pinkish brown, with fulvous spots in, at end of, and below cell; two fulvous striæ from middle of costa; the postmedial line very indistinct, except the costal part, which is black; the outer area fulvous, with the apex black edged inwardly by an ochreous line, which becomes marginal below the black area; a marginal series of black specks. Hind wing with the anal angle rounded, fulvous with ferruginous spot at end of cell; an indistinct medial line; the apical area narrowly black, with ochreous line inside it, then becoming marginal; a marginal series of black specks.

Hab. Sikhim; Ceylon. *Exp.* 48 millim.

2766. **Capnodes pustulifera,** *Wlk. Cat.* xxxiii, p. 1097; *C. & S.* no. 2831.

Dark vinous red, suffused with crimson. Fore wing somewhat narrow, with the basal area marked with conjoined ochreous spots irrorated and outlined with red; the postmedial area marked with similar spots, these two areas being defined by the antemedial, postmedial, and submarginal lines composed of similar spots, of which some are white. Hind wing with some ochreous and rufous on inner basal area; a dark speck at end of cell; an indistinct postmedial vinous line, with some ochreous and rufous suffusion beyond it; a marginal series of dark specks.

Hab. Bhután; Nágas; Ceylon. *Exp.* 36 millim.

B. *Male with a large fringe of scales from the costa of fore wing on the upperside for three fourths length.*

2767. **Capnodes lophophora,** n. sp.

♂. Pale pinkish; palpi rufous. Fore wing with traces of antemedial, postmedial, and submarginal double waved lines. Hind wing rather brighter pink; the costal area suffused with fuscous, also the outer area from apex to vein 3; nearly marginal and marginal series of fuscous specks to both wings.

Hab. Toungngoo, Burma. *Exp.* 40 millim. Type in B. M.

SECT. II. Palpi with the 2nd and 3rd joints fringed with hair in front.

2768. **Capnodes ochreisparsa,** n. sp.

♂. Ochreous, irrorated with black. Fore wing with traces of subbasal and antemedial lines; an indistinct fuscous spot at end of cell; both wings with indistinct medial line angled below the costa of fore wing, then oblique to inner margin of hind wing; an indistinct crenulate postmedial line with white specks on it; a sinuous submarginal line and almost marginal series of black specks.

Hab. Nágas, 3000 feet (*Doherty*). *Exp.* 34 millim. Type in coll. Elwes.

Genus DIOMEA.

Diomea, *Wlk. Cat.* xiii, p. 1109 (1857).

Type, *D. rotundata*, Wlk.

Range. Japan; China; Himalayas, Assam, Ceylon, and Burma.

Differs from *Capnodes* in the 2nd joint of palp not reaching above vertex of head and being roughly scaled; the metathorax and proximal segments of abdomen with more or less prominent dorsal tufts. Fore wing with the apex more rounded. Hind wing with the anal angle not truncate.

SECT. I. Male with the legs not tufted; the tufts on metathorax and abdomen very slight.

2769. **Diomea cremata,** *Butl. A. M. N. H.* (5) i, p. 295.

Head, thorax, and abdomen brown. Fore wing dark brown suffused with fuscous; traces of subbasal, antemedial, medial, and postmedial curved crenulate lines; the last with an ochreous-white spot on it at costa; a sinuous submarginal line; a marginal series of dark specks. Hind wing reddish brown, with ante- and post-medial waved lines; a marginal crenulate line.

Hab. Japan; Dharmsála; Simla; Khásis. *Exp.* 30–36 millim

SECT. II. Fore legs of male with a tuft of long pink hair from the joint of coxa and femur; mid tibiæ fringed with pink hair; hind tibiæ with very long black hair; the metathoracic and abdominal tufts more developed.

2770. **Diomea rotundata,** *Wlk. Cat.* xiii, p. 1110; *Hmpsn. Ill. Het.* ix, pl. 165, fig. 6; *C. & S.* no. 2755.

♂. Differs from *cremata* in the markings being slightly less distinct. Hind wing with a pale or pinkish patch on inner margin above anal angle.

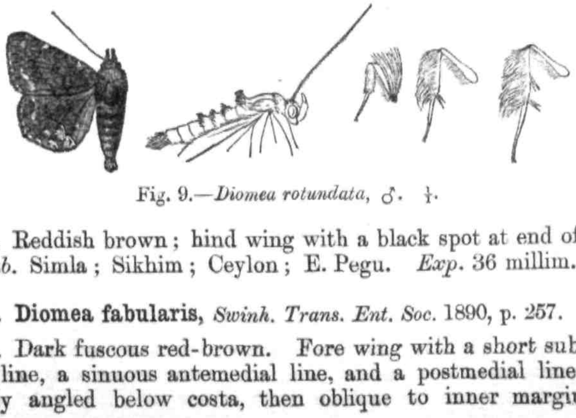

Fig. 9.—*Diomea rotundata*, ♂. ½.

♀. Reddish brown; hind wing with a black spot at end of cell.

Hab. Simla; Sikhim; Ceylon; E. Pegu. *Exp.* 36 millim.

2771. **Diomea fabularis,** *Swinh. Trans. Ent. Soc.* 1890, p. 257.

♀. Dark fuscous red-brown. Fore wing with a short subbasal pale line, a sinuous antemedial line, and a postmedial line very highly angled below costa, then oblique to inner margin—all

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three arising from black specks on the costa; two black specks at end of cell; a pale waved submarginal line and marginal series of pale specks; some pale specks on costa towards apex. Hind wing with pale medial line and submarginal series of specks.

Hab. N. China; Rangoon. *Exp.* 26 millim.

Genus **RAPARNA**.

Raparna, *Moore, Lep. Atk.* p. 177 (1882).
Hingula, *Moore, Lep. Atk.* p. 180.
Byturna, *Moore, P. Z. S.* 1883, p. 28.

Type, *R. ochreipennis*, Moore.

Range. Africa; Japan; China; throughout the Oriental and Australian regions.

Palpi with the 2nd joint reaching vertex of head and thickly scaled, the 3rd long and naked; antennæ minutely ciliated in male; thorax and abdomen smoothly scaled; tibiæ nearly naked. Fore wing with the apex rectangular or rounded; the areole sometimes very small or absent. Hind wing with vein 5 from well above lower angle of cell; veins 3 and 4 from cell or on a very short stalk.

SECT. I. Fore wing with the apex rectangular.

2772. **Raparna digramma,** *Wlk. Cat.* xxxiv, p. 1170; *C. & S.* no. 3009.

Bocana erubescens, *Wlk. Cat.* xxxiv, p. 1170; *C. & S.* no. 2998.
Thermesia scitula, *Wlk. Cat.* xxxv, p. 1973; *Moore, Lep. Ceyl.* iii, pl. 174, fig. 6; *C. & S.* no. 2827.
Byturna cucullata, *Moore, Lep. Ceyl.* iii, p. 254; *C. & S.* no. 3008.
Myana atromacula, *Swinh. P. Z. S.* 1884, p. 523, pl. 48, fig. 5; *C. & S.* no. 3031.
Myana sopora, *Swinh. P. Z. S.* 1884, p. 522, pl. 48, fig. 4; *C. & S.* no. 3032.
Marimatha lactea, *Swinh. P. Z. S.* 1884, p. 522, pl. 48, fig. 7; *C. & S.* no. 1867.
Rivula sericialis, *C. & S.* no. 3029 (*nec Denis*).
Raparna usta, *Butl. Ill. Het.* vii, p. 80, pl. 133, fig. 3.
Byturna rufifascia, *Hmpsn. Ill. Het.* viii, p. 100, pl. 148, fig. 6.

Ochreous brown. Fore wing with ante- and postmedial indistinct waved lines and black speck at lower angle of cell; a very indistinct diffused pinkish patch beyond cell and patch above it on costa; traces of a submarginal waved line; the cilia pinkish. Hind wing with the outer area slightly suffused with fuscous; the cilia usually pinkish.

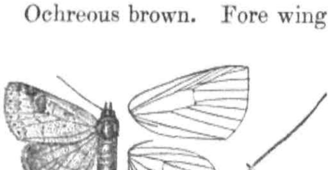

Fig. 10.—*Raparna digramma*, ♂. ⅔.

The form *rufifascia* is much darker, with an oblique pinkish postmedial band developed on fore wing; the outer area suffused with pink; the hind wing dark fuscous: *cucullata* is pale ochreous,

with a black speck on antemedial line of fore wing at costa; the patch beyond cell and on costa fuscous and often with some black specks on costal area; no pinkish suffusion: *lactea* is a bleached form from Karáchi.

Hab. N.W. Himalayas; W. and S. India; Ceylon. *Exp.* 22–28 millim.

2773. **Raparna ochreipennis,** *Moore, Lep. Atk.* p. 178, pl. 6, fig. 8; *C. & S.* no. 2791.
Raparna undulata, *Moore, Lep. Atk.* p. 178; *C. & S.* no. 2793.
Raparna transversa, *Moore, Lep. Atk.* p. 178; *C. & S.* no. 2792.
Asthena querula, *Swinh. P. Z. S.* 1885, p. 859, pl. 56, fig. 16; *C. & S.* no. 3984.

Orange or ochreous yellow; rarely with the costal area of hind wing and underside fuscous; the wings thickly speckled and striated with pinkish orange; some of the striæ of fore wing forming more or less well-defined subbasal, antemedial, medial, postmedial, and submarginal lines with dark marks on them; a dark speck at lower angle of cell. Hind wing with more or less well-defined oblique postmedial line and dark speck at lower angle of cell; both wings with marginal series of specks.

In *ochreipennis* the lines are indistinct; in *transversa* the postmedial line of both wings is well defined and straighter; in *undulata* the antemedial line also is developed.

Hab. Dharmsála; Calcutta; Poona; Nilgiris. *Exp.* 24–26 millim.

2774. **Raparna atrapex,** n. sp.

♀. Bright ochreous; head and thorax black. Fore wing with the base black; traces of excurved waved medial, postmedial, and submarginal lines; a black speck at end of cell; a large not very well-defined black patch below apex enclosing a patch of the ground-colour on the margin. Hind wing with black spot at end of cell; traces of sinuous antemedial and medial lines, the latter with greyish suffusion beyond it; both wings with marginal series of black specks. Underside with large patches of black on the submarginal line of both wings.

Hab. Margarita, Assam (*Doherty*). *Exp.* 20 millim. Type in coll. Elwes.

2775. **Raparna nebulosa,** *Moore, P. Z. S.* 1881, p. 350, pl. 38, fig. 13; *C. & S.* no. 2125.

♂. Uniform pale brown; fore wing with slightly darker, evenly disposed mottling.

Hab. Sikhim. *Exp.* 24 millim.

2776. **Raparna stipata,** *Wlk. Cat.* xxvii, p. 85; *Hmpsn. Ill. Het.* ix, pl. 166, fig. 17; *C. & S.* no. 2913.

♀. Ochreous brown. Fore wing with brown streak on median

nervure; an indistinct highly angled antemedial line, double from costa to lower angle of cell; a black spot at upper angle of cell; the outer area suffused with brown; traces of a postmedial waved line and submarginal sinuous series of specks; a fine marginal white line. Hind wing fuscous brown.

Hab. Ceylon. *Exp.* 24 millim.

2777. **Raparna imparata**, *Wlk. Cat.* xv, p. 1777; *C. & S.* no. 2191.
Homoptera diminutiva, *Wlk. Cat.* xxxiii, p. 890.
Magulaba mœstalis, *Wlk. Cat.* xxxiv, p. 1127; *C. & S.* no. 2738 A.
Egnasia erebina, *Butl. A. M. N. H.* (5) iv, p. 450.
Hingula albolunata, *Moore, Lep. Atk.* p. 181; *C. & S.* no. 2707.
Hingula cervina, *Moore, Lep. Atk.* p. 181; *C. & S.* no. 2708.
Hingula figurata, *Moore, Lep. Ceyl.* iii. p. 199, pl. 174, fig. 10; *C. & S.* no. 2709.

Dark fuscous brown with a greyish tinge; the head and collar dark red-brown. Fore wing with some dark specks on costa; waved ante- and postmedial lines, the latter excurved round cell; the orbicular and reniform large and indistinct and more or less prominently defined by hyaline lines; a dark spot at apex; a marginal series of black specks. Hind wing with a cell-spot with hyaline specks on its edges; a sinuous medial line with dark specks on it; traces of a pale submarginal lunulate line; an indistinct lunulate red-brown marginal band.

Some specimens have a dark patch on disk of fore wing; others have the black-speckled medial line of hind wing double towards inner margin.

Hab. W. Africa; Japan; throughout India and Ceylon. *Exp.* 18–24 millim.

2778. **Raparna nigriceps**, n. sp.

Reddish grey-brown; the head and collar black; the wings with numerous dark striæ. Fore wing with traces of subbasal and antemedial sinuous lines; a minute white speck at lower angle of cell; a rufous postmedial line excurved beyond cell and with fuscous suffusion inside it; the costal area below apex and the area near outer angle suffused with fuscous; some pale specks on costa towards apex; a short dark line from apex. Hind wing with rufous medial band; a white speck at end of cell; the outer area suffused with fuscous.

A Poona specimen has no red suffusion on the postmedial line of either wing; one from Bombay has all the veins prominently pale, the postmedial line without any dark area inside it, but with prominent black spots on its inner edge on hind wing.

Hab. Simla (*Harford*); Poona; Bombay (*Swinhoe*). *Exp.* 28 millim. Type in B. M.

2779. **Raparna tantilla**, *Swinh. P. Z. S.* 1885, p. 470; *C. & S.* no. 2751.
Hingula unicoloris, *Swinh. P. Z. S.* 1886, p. 452; *C. & S.* no. 2711.

Fuscous brown with a slight grey tinge. Fore wing with single

waved subbasal, ante- and postmedial lines and double medial and submarginal lines; the undulations of the postmedial line prominently black beyond the end of the cell; some white specks on costa towards apex; a marginal series of black specks. Hind wing with antemedial and medial waved lines and marginal series of specks.

Hab. Bombay; Nilgiris. *Exp.* 22–28 millim.

2780. **Raparna palpalis,** *Wlk. Cat.* xxxiv, p. 1180.

Dark fuscous brown; palpi scarlet at sides. Fore wing with pale oblique antemedial line angled below costa and at middle; a black spot at end of cell; a sinuous pale postmedial line and indistinct pale dentate submarginal line; a marginal series of black specks. Hind wing with ante- and postmedial black lines, the latter angled at middle and with a pale patch beyond it at outer angle; an indistinct waved submarginal line; a marginal series of black specks.

Hab. Sikhim; Ceylon. *Exp.* 24 millim.

2781. **Raparna multifasciata,** *Swinh. Trans. Ent. Soc.* 1890, p. 256, pl. 7, fig. 14.

♀. Differs from *palpalis* in being darker. Fore wing with a dark band inside the antemedial line; the postmedial line black, excurved beyond cell and waved; a marginal series of black specks.

Hab. Rangoon. *Exp.* 20 millim.

2782. **Raparna lilacina,** *Butl. Ill. Het.* vii, p. 81, pl. 133, fig. 5.

♀. Dark purple-grey; the head and collar dark brown. Fore wing with five waved brown lines with diffused brown between them; a speck in cell and spot on discocellulars; the medial line highly bent out round cell; a marginal series of dark specks. Hind wing fuscous, with some grey and dark marks on inner margin and vein 2.

Hab. Dharmsála. *Exp.* 24 millim.

Sect. II. Fore wing with the apex and outer margin much more rounded.

2783. **Raparna ænigmatica,** *Swinh. P. Z. S.* 1885, p. 472, pl. 28, fig. 11; *C. & S.* no. 3033.

Pasira russa, *Swinh. P. Z. S.* 1885, p. 472, pl. 28, fig. 13; *C. & S.* no. 3038.

Dark red-brown. Fore wing with slight subbasal line; obliquely waved antemedial line with a speck beyond it in cell; a very indistinct angulated medial line; an indistinct postmedial line excurved round cell and angled inwards below it; traces of a submarginal irregularly waved line; a marginal series of minute black specks. Hind wing dark fuscous brown.

The form *russa* is ochreous brown, the head and collar tinged with fulvous.

Hab. Bombay; Poona; Nilgiris. *Exp.* 26 millim.

Genus CEPHENA.

Cephena, *Moore, Lep. Atk.* p. 196 (1882).

Type, *C. costata*, Moore.

Range. Sikhim; Khásis.

Palpi sickle-shaped, the 2nd joint stout, clothed thickly with hair and reaching above vertex of head, the 3rd long and stout; a large frontal tuft; antennæ serrate in male; thorax and abdomen smoothly scaled. Fore femora and tibiæ fringed with long hair; mid and hind tibiæ less hairy. Fore wing with the costa arched; the outer margin excised from apex to vein 4, where it is excurved. Hind wing with the costa arched at base; the outer margin excised below apex; vein 5 from close to lower angle of cell.

2784. **Cephena costata,** *Moore, Lep. Atk.* p. 196, pl. 6, fig. 17; *C. & S.* no. 3019.

♂. Head ochreous white; thorax brownish ochreous; abdomen fuscous, the base pale. Fore wing brownish ochreous; the costa with brownish ante- and postmedial patches irrorated with black; a rufous fascia from centre of cell to outer margin below apex, with a pure white streak on it in cell and speck at end of it; a black speck on inner margin before outer angle. Hind wing fuscous; underside with the basal area ochreous white, the outer area fuscous.

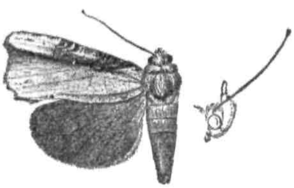

Fig. 11.—*Cephena costata*, ♂. 1/1.

Hab. Sikhim; Khásis. *Exp.* 46 millim.

Genus AVITTA.

Avitta, *Wlk. Cat.* xv, p. 1674 (1858).
Asta, *Wlk. Journ. Linn. Soc.* vii, p. 170 (1864).

Type, *A. subsignans*, Wlk.

Range. Throughout India, Ceylon, and Burma; Andamans; Borneo; Gilolo.

Palpi sickle-shaped, the 2nd joint reaching vertex of head, the 3rd long and naked; antennæ long, and ciliated in male; thorax and abdomen smoothly scaled; femora and tibiæ fringed with hair. Fore wing with the apex somewhat rounded. Hind wing with vein 5 from just above lower angle of cell.

2785. **Avitta subsignans,** *Wlk. Cat.* xv, p. 1675; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 7; *C. & S.* no. 3013.
Avitta fasciosa, *Moore, Lep. Atk.* p. 194, pl. 6, fig. 26; *C. & S.* no. 3011.

Head, thorax, and fore wing very dark reddish brown; the last

with indistinct waved antemedial, medial, and postmedial lines and submarginal band; a large indistinct reniform spot. Abdomen

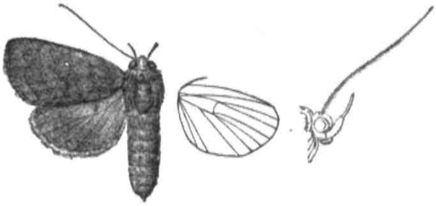

Fig. 12.—*Avitta subsignans*, ♂. 1/1.

and hind wing dark fuscous. Underside whitish, with prominent black cell-spot and curved postmedial line to each wing.

Hab. Khásis; W. and S. India; Ceylon; Andamans. *Exp.* 40–44 millim.

2786. **Avitta rufifrons**, *Moore, Lep. Ceyl.* iii, p. 554, pl. 215, fig. 2; *C. & S.* no. 3012.

Differs from *subsignans* in having the head and collar bright fulvous; the fore wing rather redder brown.

Hab. Nilgiris; Ceylon; E. Pegu. *Exp.* 46 millim.

2787. **Avitta quadrilinea**, *Wlk. Journ. Linn. Soc.* vii, p. 171; *C. & S.* no. 3044.

Bocana quadrilinealis, *Moore, P. Z. S.* 1867, p. 88; *C. & S.* no. 3004.

Head, thorax, and fore wing purplish grey-brown; the last crossed by four oblique red-brown lines; an indistinct submarginal dentate line; a marginal red-brown line. Abdomen and hind wing dark fuscous brown. Underside with small cell-spot and curved postmedial line to each wing.

Hab. Sikhim; Khásis; Nilgiris; Borneo; Gilolo. *Exp.* 45–48 millim.

Genus DIERNA.

Dierna, *Wlk. Cat.* xvi, p. 204 (1858).
Nahara, *Wlk. Cat.* xxxiii, p. 1004 (1865).
Iluza, *Wlk. Cat.* xxxiii, p. 1006.

Type, *D. acanthusalis*, Wlk.

Range. Sikhim; Khásis; throughout Peninsular India, Ceylon, and Burma.

Palpi with the 2nd joint upcurved, slender, and reaching above vertex of head, the 3rd long and acute; thorax and abdomen smoothly scaled and slender. Fore wing with the apex acute. Hind wing with the inner margin short; the outer margin angled at vein 2; vein 5 from near lower angle of cell.

SECT. I. (*Dierna*). Antennæ of male ciliated, with long curved bristles on the inner side to three-fourths the length, where the shaft is thickened and contorted.

2788. **Dierna acanthusalis**, *Wlk. Cat.* xvi, p. 205; *Moore, Lep. Ceyl.* iii, pl. 171, fig. 9; *C. & S.* no. 2320.
Nahara clavifera, *Wlk. Cat.* xxxiii, p. 1004.

Brownish grey irrorated with black scales; palpi with the 2nd joint chestnut at sides. Fore wing with two black specks below the costa near base and one above inner margin; an oblique line from the apex, bent inwards below vein 2 and with a black triangular mark in the angle; a pair of fuscous specks beyond it on each side of vein 3. Hind wing with the outer area striated with fuscous; the apical area fuscous. Underside more striated with black; a spot at end of cell of each wing; a diffused submarginal band and marginal spot.

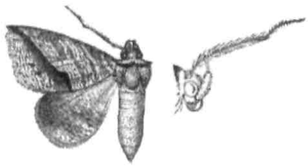
Fig. 13.
Dierna acanthusalis, ♂. ½.

Hab. Nilgiris; Ceylon; Moulmein. *Exp.* 38 millim.

2789. **Dierna strigata**, *Moore, P. Z. S.* 1867, p. 80: *C. & S.* no. 2326.
Dierna multistrigaria, *Moore, Lep. Atk.* p. 173; *C. & S.* no. 2321.

Differs from *acanthusalis* in being less irrorated with black. Fore wing with the subbasal specks absent; the line more oblique, not angled towards inner margin; the black mark absent or reduced to two specks.

Hab. Khásis; Bombay; Nilgiris. *Exp.* 46 millim.

SECT. II. (*Iluza*). Antennæ of male bipectinated and not contorted.

2790. **Dierna decisa**, *Wlk. Cat.* xxxiii, p. 1007; *C. & S.* no. 2314.
Thermesia simplex, *Wlk. Cat.* xxxiii, p. 1063; *C. & S.* no. 2773.

Grey irrorated with brown; the 2nd joint of palpi black. Fore wing with traces of antemedial line and speck at end of cell; an oblique straight narrow fulvous band with black edges from the apex to middle of inner margin of hind wing; both wings with traces of irregularly dentate submarginal line; a marginal series of dark specks.

Hab. Moulmein. *Exp.* 38 millim.

2791. **Dierna transversa**, *Moore, Lep. Atk.* p. 174, pl. 6, fig. 15; *C. & S.* no. 2317.
Iluza duplexa, *Moore, Lep. Atk.* p. 174, pl. 6, fig. 7; *C. & S.* no. 2315.

♂. Differs from *decisa* in being ochreous; a black speck in cell and two spots at end of it; the oblique band broader; the submarginal line more prominent.

♀. Browner and with a purplish tinge; fore wing with a small ring-spot at end of cell.

Hab. Sikhim; Khásis. *Exp.* 48 millim.

Subfamily DELTOIDINÆ.

Palpi either long, slender, and sickle-shaped, the 2nd joint being curved in front of head, or porrect, fringed with hair above and usually long, a sharp frontal tuft being present. Legs with the tibiæ and especially the tarsal joints long and slender. Wings with the neuration varying greatly as compared with the other groups of *Noctuidæ*; hind wing with vein 5 almost always fully developed.

Larvæ usually semiloopers, with the first or first two pairs of abdominal prolegs rudimentary.

Key to the Genera.

A. Palpi long and slender, the 2nd joint curved upwards in front of head.
- *a.* Hind wing with vein 5 from close to lower angle of cell.
  - *a'.* Fore wing with veins 7, 8, 9, 10 stalked.
    - a^2. Palpi very long, the 2nd and 3rd joints tufted; fore wing of male with vein 5 absent, 1 curving upwards and anastomosing with 2; hind wing with vein 8 short ...... 5. HETEROMALA, p. 39.
    - b^2. Palpi of moderate length .... 1. ILYRGIS, p. 34.
  - *b'.* Fore wing with veins 8, 9, 10 stalked.. 8. ALELIMMA, p. 47.
  - *c'.* Fore wing with veins 8, 9 stalked .... 2. LITHOSIOPSIS, p. 34.
  - *d'.* Fore wing with veins 8 and 9 anastomosing to form an areole.
    - a^2. Hind wing with the cell of normal length.
      - a^3. Fore wing with vein 10 given off beyond the areole, which is minute. 3. SIMPLICIA, p. 35.
      - b^3. Fore wing with vein 10 from the areole *.
        - a^4. Palpi with the 3rd joint not tufted.
          - a^5. Fore wing with the apex rounded; vein 7 from end of areole.................... 6. PSEUDAGLOSSA, [p. 40.
          - b^5. Fore wing with the apex produced and acute; vein 7 from before end of areole .. 10. BRACHARTHRUM, [p. 50.
        - b^4. Palpi with a tuft of hair on inner side of 3rd joint .... 7. BLEPTINA, p. 41.
    - b^2. Hind wing with the cell short .... 4. ADRAPSA, p. 36.

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* Except in the Nilgiri form of *Bleptina hadenalis*.

b. Hind wing with vein 5 from near middle of discocellulars.
a'. Fore wing with veins 7 and 10 from the areole which is formed by 8 anastomosing with 9.
a^2. Both wings with the outer margin angled .... 13. NAGADEBA, p. 52.
b^2. Both wings with the outer margin rounded........................ 12. DAXATA, p. 51.
b'. Fore wing with veins 7, 8, 9, 10 stalked, sometimes with a minute areole at their base.
a^2. Fore wing with the cell short; veins 4 and 5 stalked.................. 14. HYDRILLODES, [p. 53.
b^2. Fore wing with the cell of normal length; veins 4 and 5 from lower angle.......................... 15. NODARIA, p. 56.
c'. Fore wing with vein 7 from the cell.
a^2. Fore wing with vein 10 from cell, from a minute areole, or absent.... 16. CATADA, p. 61.
b^2. Fore wing with vein 10 stalked with 8, 9.
a^3. Fore wing with the outer margin not angled.................... 11. FALCIMALA, p. 51.
b^3. Fore wing with the outer margin angled.
a^4. Fore wing with veins 3 and 4 from cell .... 19. OLULIS, p. 65.
b^4. Fore wing with veins 3 and 4 stalked .... 18. NIACCABA, p. 64.
d'. Fore wing with veins 8, 9, 10, 11 stalked .... 17. ARÆOPTERUM, [p. 64.
B. Palpi with the 2nd joint straight and fringed with hair above.
a. Hind wing with vein 5 from close to lower angle of cell.
a'. Fore wing with veins 8 and 9 anastomosing to form the areole.
a^2. Fore wing with the inner margin arched, the apex acute, the outer margin angled; palpi long, porrect, and broadly fringed on both sides.. 24. CORCOBARA, p. 69.
b^2. Fore wing with the inner margin not arched.
a^3. Palpi short and obliquely upturned.
a^4. Fore wing broad .... 20. TALAPA, p. 66.
b^4. Fore wing long and narrow.... 39. MECISTOPTERA, [p. 102.
b^3. Palpi long and porrect.
a^4. Hind wing with veins 3, 4 and 6, 7 from cell.
a^5. Hind wing with vein 3 from angle of cell .... 9. MASTIGOPHORUS, [p. 47.
b^5. Hind wing with vein 3 from before angle of cell.
a^6. Palpi with the 3rd joint and the legs tufted with hair .... 21. SINGARA, p. 67.

b^6. Palpi and legs not tufted with hair .... 32. ORTHOZONA, p. 94.
b^4. Hind wing with veins 3, 4 and 6, 7 stalked .... 31. BRITHA, p. 93.
b'. Fore wing with veins 7, 8, 9 stalked; palpi porrect........ 36. HYPENAGONIA, [p. 100.
c'. Fore wing with veins 8, 9, 10 stalked; palpi obliquely upturned........ 37. MOSCHA, p. 100.
d'. Fore wing with veins 7, 8, 9, 10 stalked.
a^2. Palpi short and obliquely upturned.. 38. GONIOCRASPEDUM, [p. 101.
b^2. Palpi long and fringed with hair above, the 3rd joint obliquely upturned; costa of fore wing angled at middle; outer margin angled at middle, then crenulate to outer angle .... 22. CAMPTOCHILUS, [p. 68.
b. Hind wing with vein 5 from near middle of discocellulars.
a'. Fore wing with veins 8 and 9 anastomosing to form the areole.
a^2. Abdomen with dorsal tufts, sometimes only on 1st segment.
a^3. Fore wing with vein 10 from the areole .... 29. HYPENA, p. 76.
b^3. Fore wing with vein 10 from beyond the areole, which is minute .... 30. STENHYPENA, p. 93.
b^2. Abdomen without dorsal tufts.
a^3. Hind wing with the anal angle rounded.
a^4. Hind wing with veins 3 and 4 from cell.
a^5. Fore wing with the areole of normal size; vein 7 from it.
a^6. Fore wing narrow, the outer margin oblique .... 28. RHYNCHINA, p. 74.
b^6. Fore wing broad, the outer margin more erect ...... 27. DICHROMIA, p. 72.
b^5. Fore wing with the areole minute, vein 7 from beyond it .... 40. RHÆSENA, p. 103.
b^4. Hind wing with veins 3 and 4 stalked .... 25. ANORATHA, p. 70.
b^3. Hind wing with the anal angle truncate.
a^4. Fore wing with the outer margin excised below apex, vein 5 almost obsolete; palpi long, porrect, and fringed with long hair above .... 23. LATIROSTRUM, [p. 68.
b^4. Fore wing with the outer margin not excised below apex ...... 26. MARAPANA, p. 71.
b'. Fore wing with no areole.
a^2. Fore wing without tuft of hair at middle of inner margin.
a^3. Fore wing with veins 8, 9, 10 stalked .... 33. CHUSARIS, p. 95.

b^3. Fore wing with veins 8 and 10 stalked; 9 absent .... 34. HYPENODES, p. 98.
b^2. Fore wing with a tuft of hair at middle of inner margin .... 35. ARRADE, p. 99.

Genus ILYRGIS.

Ilyrgis, *Wlk. Cat.* xix, p. 879 (1859).

Type, *I. echephurealis*, Wlk.
Range. Ceylon.

♂. Palpi with the 2nd joint reaching vertex of head, the 3rd of moderate length and naked; antennæ bipectinated, with the branches long; thorax and abdomen smoothly scaled. Fore wing with the costa arched near base and at apex, which is slightly produced; the outer margin excurved at middle; veins 7, 8, 9, 10 stalked; a tuft of long scales from base of costa on underside; the retinacular tuft large. Hind wing with veins 3, 4 stalked, 5 from lower angle of cell.

2792. **Ilyrgis echephurealis**, *Wlk. Cat.* xix, p. 880; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 12; *C. & S.* no. 2938.

Fig. 14.
Ilyrgis echephurealis, ♂. 1/1.

♂. Pale red-brown; the head and collar whitish. Fore wing with indistinct waved antemedial, postmedial, and submarginal lines, each white at costa, the postmedial line excurved round cell. Hind wing with waved postmedial and submarginal lines.

Hab. Ceylon. *Exp.* 20 millim.

Genus LITHOSIOPSIS, nov.

Type, *L. torsivena*, Hmpsn.
Range. Bhután.

Palpi with the 2nd joint thickly scaled and reaching above vertex of head, the 3rd long; antennæ of male with long cilia; tibiæ hairy. Fore wing with the inner margin much arched; the cell occupying nearly the middle of wing; veins 2 and 3 curved at base; discocellulars short; vein 6 from below angle of cell, 7 from angle, 8, 9 stalked from before angle. Hind wing with vein 5 from near lower angle of cell; 8 free from the base.

2793. **Lithosiopsis torsivena**, n. sp.

♂. Reddish brown, irrorated with dark scales. Fore wing with two short, pale, subbasal lines; the orbicular and reniform stigmata with pale outlines; ochreous medial and postmedial lines,

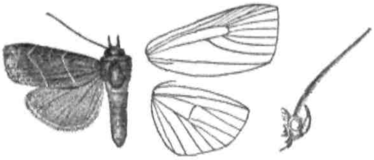

Fig. 15.—*Lithosiopsis torsivena*, ♂. †.

the former curved, the latter angled below costa; an indistinct submarginal line angled at middle; a marginal series of black specks. Hind wing fuscous. Underside with cell-spot to hind wing and postmedial line to both wings.

Hab. Bhután (*Dudgeon*). *Exp.* 30 millim. Type in B. M.

Genus SIMPLICIA.

Simplicia, *Guen. Delt. et Pyr.* p. 51 (1854).
Libisosa, *Wlk. Cat.* xvi, p. 187 (1858).
Culicula, *Wlk. Journ. Linn. Soc.* vii, p. 178 (1864).
Aginna, *Wlk. Cat.* xxxiii, p. 1022 (1865).
Nabartha, *Moore, Lep. Ceyl.* iii, p. 234 (1885).

Type, *S. rectalis*, Ev., from Europe.

Range. Palæarctic, Oriental, and Australian regions.

Palpi sickle-shaped, the 2nd joint reaching above vertex of head, the 3rd long and naked; antennæ minutely ciliated in male; thorax and abdomen smoothly scaled. Fore tibia of male covered by a sheath containing masses of flocculent scales. Fore wing with the apex somewhat rounded; the areole very narrow, with vein 10 given off far beyond it in male, from it in female; the discocellulars almost obsolete. Hind wing with vein 5 from near lower angle of cell.

SECT. I. (*Simplicia*). Antennæ of male not knotted and contorted.

2794. **Simplicia schaldusalis**, *Wlk. Cat.* xvi, p. 180.
Culicula bimarginata, *Wlk. Journ. Linn. Soc.* vii, p. 178.
Nabartha marginata, *Moore, Lep. Ceyl.* iii, p. 234, pl. 177, fig. 2; *C. & S.* no. 3040.

Pale ochreous brown. Fore wing with a straight submarginal line, with diffused fuscous on its inner side, the area beyond it grey; obscure ante- and postmedial waved lines approaching each other towards inner margin; a speck at end of cell. Hind wing with the submarginal line similar but angled at vein 2.

Hab. Ceylon; Singapore; Sumatra; Borneo. *Exp.* 40 millim.

2795. **Simplicia marginata**, *Moore, Lep. Atk.* p. 195, pl. 6, fig. 19; *C. & S.* no. 3001.

Differs from *schaldusalis* in the submarginal line of fore wing being bent outwards to apex.

Hab. Sikhim; Bombay; Nilgiris: Ceylon; Rangoon. *Exp.* 26 millim.

2796. **Simplicia butesalis,** *Wlk. Cat.* xvi, p. 187.
Bocana murinalis, *Moore, P. Z. S.* 1867, p. 89; *C. & S.* no. 3002.
Bocana concisalis, *Wlk. Cat.* xxxiv, p. 1171.

Differs from *robustalis* in the antemedial line of fore wing being more erect; the postmedial line excurved round end of cell; the submarginal line straight; the colour usually darker, and the costa of fore wing ochreous.

Hab. S. Africa; N.W. Himalayas; Sikhim; Nilgiris; Ceylon; Borneo; Aru; Australia; Solomons. *Exp.* 30–42 millim.

Sect. II. (*Libisosa*). Antennæ of male knotted and contorted, and with a slight tuft of scales at middle; the fore femora with a tuft of long hair; the sheath on fore tibia very large.

2797. **Simplicia robustalis,** *Guen. Delt. et Pyr.* p. 58; *Moore, Lep. Ceyl.* iii. pl. 177, figs. 1, 1 *a*; *C. & S.* no. 3021.
Bocana turpatalis, *Wlk. Cat.* xvi, p. 174.
Sophronia cæneusalis, *Wlk. Cat.* xvi, p. 94.
Bocana concoloralis, *Wlk. Cat.* xxxiv, p. 1171.
Bocana robustalis, *Wlk. Cat.* xxxiv, p. 1172.
Aginna circumscripta, *Swinh. P. Z. S.* 1885, p. 474 (*nec Wlk.*).
Aginna simulata, *Moore, Lep. Atk.* p. 195; *C. & S.* no. 3023.

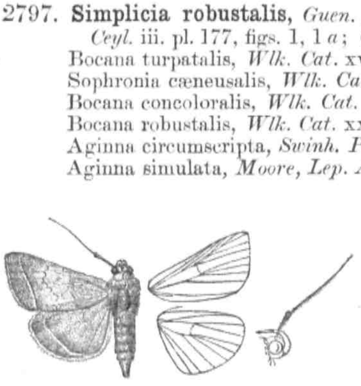

Fig. 16.—*Simplicia robustalis*, ♂. ½.

Differs from *schaldusalis* in being more ochreous brown. Fore wing with the curved postmedial line crenulate; hardly a trace of dark suffusion inside the submarginal line, the area beyond it ochreous brown. Hind wing with the dark suffusion and grey absent.

Hab. Throughout India, Ceylon, and Burma; Borneo; Mysol; Morty; Australia; Sandwich Islands. *Exp.* 38 millim.

2798. **Simplicia niphona,** *Butl. Ill. Het.* ii, p. 56, pl. 38, fig. 9.
Aginna similis, *Moore, Lep. Atk.* p. 195; *C. & S.* no. 3022.

Differs from *robustalis* in the antemedial line of fore wing being more erect; the postmedial line excurved round end of cell; the submarginal line straight; the colour usually darker, with the costa of fore wing ochreous.

Hab. Japan; N.W. Himalayas; Sikhim. *Exp.* 30–42 millim.

Genus **ADRAPSA**.

Lusia, *Wlk. Cat.* xiii, p. 1113 (1857), præocc.
Adrapsa, *Wlk. Cat.* xvi, p. 169 (1858).
Bocana, *Wlk. Cat.* xvi, p. 170.
Lamura, *Wlk. Cat.* xvi, p. 189.
Badiza, *Wlk. Journ. Linn. Soc.* vii, p. 195 (1864).
Bithiasa, *Wlk. Cat.* xxxiii, p. 1116 (1865).
Asthala, *Moore, Lep. Atk.* p. 196 (1882).

Type, *A. ablualis*, Wlk.

Range. Throughout India, Ceylon, and Burma; Singapore; Borneo; Gilolo.

Palpi with the 2nd joint reaching above vertex of head; thorax and abdomen smoothly scaled; tibiæ slightly hairy. Fore wing with the apex somewhat acute. Hind wing with the cell short; veins 3, 4 usually stalked, 6, 7 stalked; 5 from near lower angle of cell.

SECT. I. Palpi of male with long hair on inner side, and a tuft in front towards extremity, the 3rd joint obliquely porrect; antennæ knotted and contorted, with slight tufts of hair on upperside of joints as far as middle; fore wing with no costal fold; fore leg with a tuft of long hair and flattened scales from the joint of femur and coxa.

A. (Badiza). *Palpi of male with the 2nd joint fringed in front with long hair to its extremity.*

2799. **Adrapsa ereboides**, *Wlk. Journ. Linn. Soc.* vii, p. 196.

♂. With uniseriate branches to antennæ. Fuscous black. Fore wing with traces of antemedial and medial lines; a pale lunule on discocellulars; a crenulate postmedial and sinuous submarginal line, with ochreous edges; a large ochreous-white subapical patch. Hind wing with indistinct medial and postmedial lines; a series of small ochreous lunules on the margin of both wings. Underside more or less suffused with ochreous.

Hab. Sikhim; Khásis; Borneo. *Exp.* 34 millim.

2800. **Adrapsa despecta**, *Wlk. Cat.* xxxiii, p. 1058.
Egnasia nubifascia, *Hmpsn. Ill. Het.* ix, p. 114, pl. 165, fig. 9.

Differs from *ereboides* in the male having long bristles and cilia to the antennæ, instead of uniseriate pectinations.

One specimen is ochreous brown, irrorated with black.

Hab. Khásis; Nilgiris; Ceylon; E. Pegu. *Exp.* 34 millim.

B. (Adrapsa). *Male with a tuft of long hair from the base of 2nd joint of palpus.*

2801. **Adrapsa ablualis**, *Wlk. Cat.* xvi, p. 170; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 6; *C. & S.* no. 2939.
Bocana subapicalis, *Moore, Lep. Ceyl.* iii, p. 244; *C. & S.* no. 3005.

Antennæ of male with uniseriate pectinations. Differs from *ereboides* in the ante- and postmedial lines of fore wing and the sinuous submarginal line being whiter, the two former nearly straight; a white speck at centre, and spot at end of cell. Hind wing with the base whiter. Underside with the basal area of both wings speckled with white.

Hab. Ceylon. *Exp.*, ♂ 32, ♀ 36 millim.

2802. **Adrapsa geometroides,** *Wlk. Cat.* xiii, p. 1113; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 13; *C. & S.* no. 2999.

Antennæ of male with long bristles and cilia. Differs from *ablualis* in the ante- and postmedial lines of fore wing being obscure and crenulate; the apical patch wanting in male, small above in female, and ochreous or white below.

Hab. Ceylon; Gilolo. *Exp.*, ♂ 32, ♀ 36 millim.

2803. **Adrapsa albirenalis,** *Moore, P. Z. S.* 1867, p. 85; *C. & S.* no. 2950.

Differs from *geometroides* in the fore wing being irrorated with black; the ante- and postmedial lines usually whiter and more sinuous; the submarginal line whitish throughout, with only a

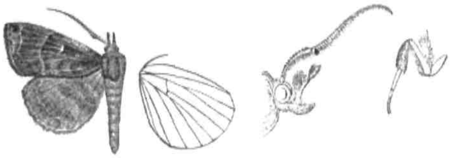

Fig. 17.—*Adrapsa albirenalis*, ♂. ½.

slight white subapical patch in female, usually large in male. Hind wing with the medial and submarginal lines whiter and waved.

Hab. Sikhim. *Exp.* 42–50 millim.

SECT. II. Male with slight tuft of hair on inner side of 2nd joint of palpi, and very large tuft on inner side of 3rd joint; antennæ knotted and contorted, with slight tufts of hair on upperside of joints as far as middle, and long cilia. Fore wing with no costal fold.

2804. **Adrapsa scopigera,** *Moore, Lep. Ceyl.* iii, p. 195, pl. 172, fig. 9; *C. & S. no.* 2742.

♂. Exactly similar to the ochreous form of *despecta*, except in structural characters.

Hab. Ceylon. *Exp.* 34 millim.

SECT. III. Males with the 3rd joint of palpi upturned and naked; no tuft from 2nd joint; antennæ pectinated; fore wing with a large costal fold.

A. (Bocana). *Male with bipectinate antennæ; the branches of moderate length.*

2805. **Adrapsa manifestalis,** *Wlk. Cat.* xvi, p. 171; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 9; *C. & S.* no. 3000.
Lamura oberratalis, *Wlk. Cat.* xvi, p. 189.
Bithiasa determinata, *Wlk. Cat.* xxxiii, p. 1116; *C & S.* no. 2997.
Diomea repulsa, *Wlk. Cat* xxxiii, p. 899.

Dark fuscous brown. Fore wing with indistinct oblique antemedial dark line; a white or black speck at end of cell; a waved postmedial line excurved beyond cell; an irregularly sinuous submarginal line. Hind wing with medial and submarginal waved lines; underside with black cell-spot.

In many specimens the two waved lines have whitish outer edges.

Hab. Khásis; Rangoon; Nilgiris; Ceylon; Singapore; Gilolo. *Exp.* 36–40 millim.

B. (Asthala). *Male with the antennæ pectinated on one side, the branches very short and ending in a long spine, ciliated on the other.*

2806. **Adrapsa silenusalis**, *Wlk. Cat.* xvi, p. 179; *Moore, Lep. Atk.* pl. vi, fig. 22; *C. & S.* no. 3020.
Thermesia noctinix, *Wlk. Journ. Linn. Soc.* vii, p. 185.

Dark fuscous. Fore wing with an indistinct curved antemedial line; a white speck in cell; a large white reniform spot; a postmedial indistinct line excurved round cell and arising from a white speck on costa; an indistinct sinuous submarginal shade. Hind wing with indistinct speck at end of cell; a sinuous medial line with pale outer edge; an indistinct crenulate submarginal line: underside with deep black pale-edged cell-spot; the medial and submarginal line pale and crenulate.

Hab. Khásis; Rangoon; Borneo. *Exp.* 34 millim.

Sect. IV. Palpi as in Sect. II.; antennæ of male ciliated; fore wing with costa more arched, and outer margin oblique; a large costal fold; hind wing ample, with veins 3, 4 from angle of cell.

2807. **Adrapsa abnormalis**, *Swinh. MS.*

♂. Greyish fuscous. Fore wing with waved antemedial line; a white lunule at end of cell; a waved oblique postmedial line, the area beyond it paler grey; an ill-defined submarginal lunulate band. Hind wing darker, with waved medial and postmedial lines.

Hab. Sikhim (*Möller*); Khásis. *Exp.* 45 millim.

Genus **HETEROMALA**, nov.

Type, *H. thyrophora*, Hmpsn.

Range. Sikhim; Khásis.

♂. Palpi with the 2nd joint very long, upcurved, and with tufts of hair on inner side, the 3rd joint of moderate length, with a tuft of hair at middle; a short frontal tuft; antennæ with two pairs of long thick setæ from each joint; fore femora and tibiæ with slight tufts of hair; mid tibiæ with a slight tuft at base. Fore wing with the apex acute, the outer margin crenulate; vein 1 curved and anastomosing with 2, which runs to outer angle; 3 and 4 from angle of cell; 5 absent; 6 from upper angle; 7, 8, 9, 10

stalked. Hind wing with the margin crenulate; the anal angle lobed; the cell short; vein 5 from near lower angle; 6 and 7 from upper angle; 8 short and bent upwards to middle of costa, which is arched.

♀. With veins 1–5 of fore wing normal; hind wing with vein 8 anastomosing with 7 to middle of cell.

2808. **Heteromala thyrophora**, n. sp.

♂. Ochreous brown, suffused with fuscous. Fore wing with small dark antemedial and medial strigæ from costa; a large black-brown triangular costal postmedial patch with pale edges; a

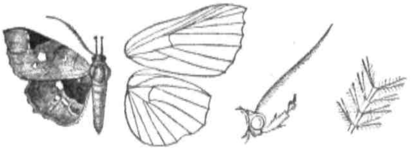

Fig. 18.—*Heteromala thyrophora*, ♂. ½.

hyaline lunule at end of cell; a quadrate hyaline spot beyond end of cell between veins 4 and 6, with two smaller spots below it. Hind wing darker, especially the basal area; a hyaline spot at end of cell and another beyond it, with a line from it to middle of inner margin, beyond which are two hyaline spots and a line to anal angle; both wings with pale marginal line.

Hab. Sikhim (*Knyvett*); Khásis. *Exp.* 30 millim. Type in coll. Knyvett.

Genus PSEUDAGLOSSA.

Pseudaglossa, *Grote, Bull. Buffalo Soc. Nat. Sci.* ii, p. 47 (1874).

Type, *P. lubricalis*, Geyer, from N. America.

Range. Nearctic region and throughout India, Ceylon, Burma, and Malacca.

Palpi sickle-shaped and slender, the 2nd joint reaching above vertex of head. Thorax and abdomen smoothly scaled; tibiæ not hairy. Fore wing with the apex rounded. Hind wing with vein 5 from lower angle of cell.

SECT. I. Antennæ of male with bristles and cilia; palpi with the 3rd joint minute in male, long in female.

2809. **Pseudaglossa quadrinotata**, *Wlk. Cat.* xxxiii, p. 893; *Hmpsn. Ill. Het.* ix, pl. 163, fig. 9; *C. & S.* no. 2399.

Fuscous brown. Head and thorax suffused with white. Fore wing with the medial area paler; waved subbasal, ante- and postmedial lines on pale bands; an indistinct lunule at end of cell; a sinuous submarginal line with a white line inside it, and the area beyond it white with black spots at apex and middle of margin,

the latter with a white speck beyond it on the cilia. Hind wing with waved postmedial line, the part near inner margin on a white band; a white submarginal line on inner area; the outer margin white, except at apex.

In the Ceylon and Andaman specimens the postmedial line of fore wing is bent out beyond lower angle of cell; in the Andaman specimen the ante- and postmedial lines are on prominent white bands.

Hab. Nágas; Moulmein; Ceylon; Andamans. *Exp.* 28 millim.

SECT. II. Antennæ of male bipectinated, the branches short with long bristles from their ends; palpi as in female of 1st section; fore wing without tufts of hair.

2810. **Pseudaglossa fulvipicta**, *Butl. Ill. Het.* vii, p. 87, pl. 134, fig. 5.

Pseudaglossa modesta, *Swinh. Trans. Ent. Soc.* 1890, p. 261.

Fuscous black. Fore wing with curved antemedial line; the reniform large and ochreous; a postmedial line excurved round cell and whitish towards costa; a black subapical spot with white outer edge, and white spot on upper edge, often with a minute speck above it; an indistinct sinuous submarginal shade. Hind wing with antemedial, postmedial, and submarginal slightly curved dark lines with pale outer edges. Underside of fore wing with deep black, white-edged, orbicular and reniform spots; hind wing with lunule at end of cell; the postmedial line of both wings prominent and obliquely curved.

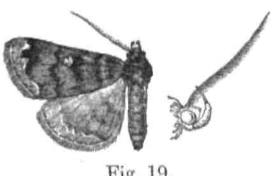

Fig. 19.
Pseudaglossa fulvipicta, ♂. ¾.

Hab. Dharmsála; Nilgiris; Rangoon. *Exp.* 28–32 millim.

Genus BLEPTINA.

Bleptina, *Guen. Delt. et Pyr.* p. 66 (1854).
Bertula, *Wlk. Cat.* xvi, p. 162 (1858).

Type, *B. confusalis*, Guen., from S. America.

Range. Nearctic and Neotropical regions; Japan; Himalayas; Nilgiris; Ceylon; Assam; Burma and Malayasia.

Palpi with the 2nd joint reaching far above vertex of head, the 3rd long with a tuft of hair on inner side; antennæ fasciculated in male; thorax and abdomen smoothly scaled. Fore wing with the apex somewhat acute; veins 8 and 9 anastomosing to form the areole, which is short and broad, or long and narrow, vein 10 sometimes given off beyond it. Hind wing with vein 5 from near lower angle of cell.

SECT. I. (*Bleptina*). Males with the palpi not tufted with long hair, nor recurved over head; fore wing with no costal fold.

A. *Fore tibiæ of male with a sheath enclosing a mass of flocculent scales.*

2811. **Bleptina hadenalis**, *Moore, P. Z. S.* 1867, p. 85; *C. & S.* no. 2954.
Herminia restricta, *Moore, Lep. Atk.* p. 192; *C. & S.* no. 2959.
Herminia ruptistigma, *Hmpsn. Ill. Het.* viii, p. 100, pl. 148, fig. 20.

♂. Pale brown. Fore wing with traces of an antemedial sinuous line; a dark lunule at end of cell; an indistinct sinuous postmedial line incurved below cell, and with dark patches on it beyond the cell and above inner margin; a sinuous submarginal line; a marginal series of dark specks. Hind wing with traces of medial line, postmedial band, and submarginal line; a marginal series of dark lunules; underside paler, with speck at end of cell and crenulate medial and postmedial lines.

♀. With well-marked pale submarginal line to hind wing.

In *ruptistigma*, from the Nilgiris, vein 10 of the fore wing is given off beyond the areole.

Hab. Sikhim; Assam. *Exp.* 38 millim.

2812. **Bleptina nigella**, *Swinh. Trans. Ent. Soc.* 1890, p. 265.

♀. Smoky black. Fore wing with traces of waved ante- and postmedial lines; a black speck at end of cell: hind wing with traces of a waved medial line: both wings with a submarginal series of minute white specks and marginal series of black specks. Underside suffused with grey; both wings with cell-spot and waved postmedial and submarginal grey lines.

Hab. Rangoon. *Exp.* 32 millim.

2813. **Bleptina apidanusalis**, *Wlk. Cat.* xvi, p. 240; *C. & S.* no. 2951.

♀. Dull reddish brown. Fore wing with indistinct antemedial, medial, and postmedial minutely dentate lines; a white spot at end of cell; prominent submarginal and marginal lunulate lines. Hind wing with antemedial and medial minutely dentate lines, and submarginal lunulate line. Underside greyer; fore wing with dark subapical marks beyond the postmedial line.

Hab. "N. India." *Exp.* 30 millim.

2814. **Bleptina vialis**, *Moore, Lep. Atk.* p. 192; *C. & S.* no. 2963.

♂. Fuscous. Fore wing with a broad antemedial pale oblique band traversed by a dark line near its inner edge; a minute speck in the cell, and a dark lunule on the discocellulars; some black beyond and below end of cell; a black mark at apex. Hind wing

with a dark mark below lower angle of cell; an indistinct pale submarginal line, most prominent towards anal angle.

Hab. Khásis. *Exp.* 30 millim.

2815. **Bleptina ochracealis,** *Moore, P. Z. S.* 1867, p. 85; *C. & S.* no. 2957.

♀. Head and thorax fulvous brown; the abdomen fuscous, ringed with white. Fore wing fulvous brown, with traces of antemedial and diffused medial lines; a highly crenulate postmedial line; a submarginal band of the ground-colour defined by fuscous suffusion; a black subapical spot and marginal series of black specks. Hind wing whitish, the inner area suffused with fuscous; postmedial and submarginal lines obsolete towards costa; the cilia brown. Underside suffused with ochreous; fore wing with crenulate postmedial line, cell-spot, and subapical spot; hind wing with cell-spot, postmedial and submarginal lines.

Hab. Sikhim. *Exp.* 36 millim.

2816. **Bleptina apicalis,** n. sp.

♀. Ochreous brown, slightly irrorated with black. Fore wing with indistinct crenulate antemedial, medial, and postmedial lines; a speck in cell and spot at end of it; traces of a submarginal line; an apical black spot and marginal series of specks. Hind wing with dark spot at end of cell; crenulate postmedial and submarginal lines and marginal series of specks; the apex fuscous.

Hab. E. Pegu (*Doherty*). *Exp.* 30 millim. Type in coll. Elwes.

B. *Fore tibiæ of male without a sheath.*

a. *Palpi with no tuft of hair on 2nd joint.*

2817. **Bleptina latifasciata,** n. sp.

♂. Smoky black. Fore wing with ante- and postmedial oblique lines, the area between them ochreous, traversed by an indistinct dark medial line; an irregularly waved submarginal indistinct line with a white spot on it at costa; a marginal series of dark specks. Hind wing with indistinct medial and postmedial pale lines and marginal series of dark specks. Underside suffused with grey, with cell-spot, medial and indistinct postmedial lines to both wings.

Hab. Sikhim (*Dudgeon*); Khásis; E. Pegu (*Doherty*). *Exp.* 28 millim. Type in coll. Elwes.

b. *Palpi with slight tufts of hair on inner side of both 2nd and 3rd joints.*

2818. **Bleptina melanosticta,** n. sp.

♀. Fuscous brown. Fore wing with short subbasal and sinuous antemedial indistinct lines; a large subquadrate black patch below

base of cell; a speck in cell and ochreous striga on fuscous patch at its end on a waved medial line: an obliquely sinuous postmedial line, with traces of a waved line with some ochreous marks and black specks beyond it; two black subapical spots and oblique streak from apex. Hind wing with indistinct cell-spot and postmedial line on underside.

Hab. E. Pegu, 4000 feet (*Doherty*). *Exp.* 44 millim. Type in coll. Elwes.

2819. **Bleptina perfusca**, *Swinh. MS.*

♂. Dark fuscous. Fore wing with antemedial pale line angled on subcostal nervure; a lunule at end of cell; a quite straight postmedial line and irregularly sinuous submarginal line. Hind wing with nearly straight medial line, and traces of submarginal line obsolete towards costa; both wings with fine marginal line.

Hab. Khásis. *Exp.* 40 millim.

SECT. II. (*Bertula*). Males with the palpi recurved over vertex of head and thorax, the 2nd joint fringed with hair in front and with tufts of very long hair from the inner side; the 3rd joint with tufts of long hair; fore tibiæ without a sheath; fore wing with a costal fold acting as retinaculum.

A. *Fore wing of male with the costal fold narrow.*

2820. **Bleptina abjudicalis**, *Wlk. Cat.* xvi, p. 163; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 4; *C. & S.* no. 2975.
Bocana tumidalis, *Wlk. Cat.* xvi, p. 176.
Bertula thyrisalis, *Wlk. Cat.* xix, p. 886 (*nec* p. 167).

Head and thorax dark red-brown; abdomen fuscous, with a pale line on basal segment. Fore wing with the basal area red-brown; an oblique antemedial ochreous line; a white lunule at end of cell; a postmedial line sinuous from the costa to vein 4, where it is angled and bent inwards to below the end of cell; the area between the lines brownish ochreous, with traces of a medial line; an indistinct sinuous submarginal dark line. Hind wing dark fuscous, with indistinct pale waved medial and submarginal lines; underside with the basal area pale; a cell-spot and the lines more distinct.

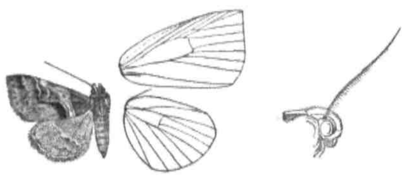

Fig. 20.—*Bleptina abjudicalis*, ♂. ½.

The form *tumidalis* has the area between the ante- and postmedial lines of fore wing much darker.

Hab. Nilgiris; Ceylon. *Exp.* 26 millim.

2821. **Bleptina partita,** *Hmpsn. Ill. Het.* viii, p. 99, pl. 148, fig. 13.

♀. Differs from *abjudicalis* in the fore wing being red-brown as far as the postmedial line; the antemedial line obsolete; a black speck at middle of cell, and lunule at end of it; the postmedial line indistinct, almost straight, and very slightly angled at vein 4.

Hab. Khásis; Nilgiris. *Exp.* 26 millim.

2822. **Bleptina dentilinea,** n. sp.

♀. Differs from *abjudicalis* in the medial fulvous area of the fore wing being broader, with the postmedial line dentate and angled outwards beyond lower angle of cell.

Hab. Sikhim (*Knyvett*). *Exp.* 34 millim. Type in coll. Knyvett.

B. *Fore wing of male with the costal fold large and wide.*

a. *Male with the antennæ and palpi normal.*

2823. **Bleptina hisbonalis,** *Wlk. Cat.* xvi, p. 164; *C. & S.* no. 2979.

Dark fuscous brown; the tufts from 2nd joint of palpi ochreous. Fore wing with a pale speck at end of cell; an oblique submarginal pale straight line from apex, beyond which the area is greyish. Hind wing with the oblique line postmedial; the outer area grey.

Hab. Khásis; Margharita, Assam. *Exp.* 46 millim.

2824. **Bleptina jutalis,** *Wlk. Cat.* xvi, p. 172; *C. & S.* no. 2993.
Bocana hypenalis, *Wlk. Cat.* xvi, p. 174; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 21; *C. & S.* no. 2992.
Bertula mysalis, *Wlk. Cat.* xix, p. 886; *C. & S.* no. 2994.
Bertula albinotalis, *Moore, P. Z. S.* 1877, p. 613; *C. & S.* no. 2991.
Bocana incongruens, *Butl. A. M. N. H.* (5) iv, p. 448.
Hadennia ignicorna, *Swinh. Trans. Ent. Soc.* 1890, p. 264, pl. 8, fig. 12.

Grey-brown with a slight purplish tinge. Fore wing with antemedial line; a dark speck in cell, and white dark-ringed spot at end of it; a diffused oblique medial line; an oblique waved postmedial line curved below costa; an indistinct waved submarginal line on a diffused dark band. Hind wing with diffused antemedial line; traces of a medial line; a diffused postmedial band, with indistinct pale line on it excurved beyond cell. Underside yellow-brown, with a prominent white lunule at end of cell of each wing.

Male with the tufts on palpi ochreous.

Hab. Ceylon; Rangoon. *Exp.* 34 millim.

2825. **Bleptina prunosa,** *Moore, Lep. Ceyl.* iii. p. 237, pl. 177, fig. 8; *C. & S.* no. 2995.

♀. Differs from *jutalis* in being much more suffused with

purple. Fore wing with an ochreous speck in the cell; the spot on discocellulars larger; both wings with marginal series of ochreous specks.

Hab. Ceylon. *Exp.* 36 millim.

2826. **Bleptina maculifascia,** n. sp.

♀. Purplish grey. Fore wing with waved antemedial, medial, and postmedial oblique lines; an ochreous speck in cell and spot at end of it; an irregularly sinuous submarginal line with diffused black on its inner side, and black spots beyond it below apex and at middle; a black apical speck. Hind wing with medial line, the area between it and the irregularly sinuous submarginal line suffused with black; a series of black spots beyond the submarginal line; both wings with marginal series of ochreous specks.

Hab. Nágas, 3000 feet (*Doherty*). *Exp.* 30 millim. Type in coll. Elwes.

2827. **Bleptina ochreistigma,** n. sp.

♀. Fuscous brown with a purplish tinge. Fore wing with indistinct waved antemedial line; ochreous speck in cell; large round ochreous reniform spot; oblique blue-grey band from near apex to middle of inner margin, with a dark line on it and dark rufous edges. Hind wing with this band continued across its middle; both wings with marginal series of dark specks.

Hab. E. Pegu, 5000 feet (*Doherty*). *Exp.* 32 millim. Type in coll. Elwes.

b. *Male with the 3rd joint of palpi depressed, and not forming a continuous curve with the 2nd; the 2nd and 3rd fringed with long hair below; a short tuft from end of 2nd joint above lying in a concavity formed of curved hairs from the 3rd joint; antennæ with a fringe of scales at middle on upperside; the costal fold very large, the costa of hind wing arched at base.*

2828. **Bleptina triangulifera,** n. sp.

Purplish fuscous. Fore wing with indistinct oblique antemedial and medial lines, a large ochreous triangular mark on outer half of costa nearly reaching inner margin, and with a fulvous oblique line inside it from lower angle of cell, where there is a pale speck; an irregularly dentate fulvous and black submarginal line. Hind wing with curved postmedial ochreous and black line from lower angle of cell to anal angle, and dentate submarginal line obsolete towards costa.

Hab. Sikhim (*Knyvett*). *Exp.* 52 millim. Type in coll. Elwes.

Genus **ALELIMMA**, nov.

Type, *A. pallidifusca*, Hmpsn.

Range. Sikhim; Nágas.

Palpi with the 2nd joint reaching far above vertex of head, the 3rd with a tuft of hair on inner side; antennæ almost simple in female. Fore wing with the apex slightly acute; veins 8, 9, 10 stalked. Hind wing with vein 5 from near lower angle of cell.

2829. **Alelimma pallidifusca**, n. sp.

♀. Pale fuscous brown. Fore wing with indistinct waved antemedial line; slight lunule on discocellulars; waved postmedial line, oblique from the costa to beyond lower angle of cell; traces of sinuous submarginal line. Hind wing with traces of sinuous medial and submarginal lines; both wings with marginal series of dark striæ.

Hab. Nágas, 6000 feet (*Doherty*). *Exp.* 24 millim. Type in coll. Elwes.

2830. **Alelimma deletaria**, n. sp.

♀. Pale ochreous, slightly suffused with fuscous and rufous in parts. Fore wing with purplish suffusion at base of costa and forming two indistinct oblique bands from costa across the cell; the outer area slightly suffused with purplish; traces of a highly dentate

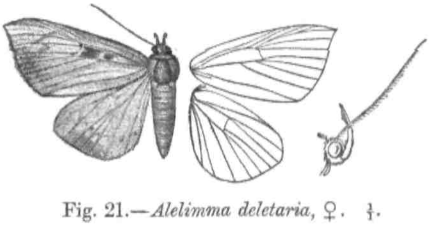

Fig. 21.—*Alelimma deletaria*, ♀. ½.

rufous line below cell, and two postmedial lines highly angled below costa; the veins rufous. Hind wing with some darker ochreous beyond lower angle of cell, the inner margin suffused with purplish at middle; traces of a dentate postmedial line; cilia of both wings purplish fuscous.

Hab. Sikhim (*Möller*). *Exp.* 44 millim. Type in coll. Elwes.

Genus **MASTIGOPHORUS**.

Mastigophorus, *Poey, Lep. Cuba* (1832).
Mosopia, *Wlk. Cat.* xxxiv, p. 1187 (1865).

Type, *M. parra*, Poey, from Cuba.

Range. Nearctic, Neotropical, Palæarctic, and Oriental Regions.

♂. Palpi with the 1st joint upcurved at base, then porrect,

extremely long, and fringed with hair above, the 2nd joint bent back at an acute angle to above vertex of head, the 3rd a long flattened process with a tuft of long hair from its base; antennæ with long bristles and cilia; thorax and abdomen smoothly scaled; tibiæ slightly hairy. Fore wing with the apex slightly acute. Hind wing with vein 5 from near lower angle of cell.

♀. Palpi with the 1st joint short, the 2nd curved or obliquely upturned and of moderate length, the 3rd upturned, long, and very slender.

The typical American section has a sheath to the fore tibia containing a mass of flocculent scales.

SECT. II. Fore tibia with no sheath containing flocculent scales.

A. *Each joint of palpus in male very long, the 3rd extending to middle of abdomen.*

2831. **Mastigophorus brontesalis**, *Wlk. Cat.* xvi, p. 151.
Mastygophora scopigeralis, *Moore, P. Z. S.* 1867, p. 86; *Waterh. Aid,* ii, pl. 173, fig. 3; *C. & S.* no. 2964.

♂. Dark fuscous red-brown; palpi with the tuft ochreous. Fore wing with the basal area and a broad postmedial sinuous band darkest; two dark specks often present at end of cell; indistinct dark lines parallel to each edge of the postmedial band; a pair of black specks on the inner line and inner edge of band above inner margin; a marginal series of black specks. Hind wing with traces of a broad dark postmedial band, with a line before its inner edge and a series of specks beyond its outer. Underside whitish, with lunule at end of cell, crenulate postmedial line, and fuscous outer area, with waved pale submarginal line to each wing.

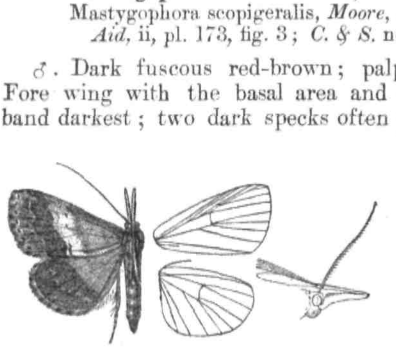

Fig. 22.—*Mastigophorus brontesalis*, ♂. ½.

♀. With the fore wing more uniformly coloured, and without the pair of dark specks above inner margin.

Hab. Sikhim; Khásis; Sibságar; Borneo. *Exp.* 42 millim.

2832. **Mastigophorus duplicifascia**, n. sp.

♂. Dark fuscous brown. Fore wing with large black reniform spot; an oblique ochreous postmedial band traversed by a dark line; a highly sinuous submarginal pale line; a marginal series of black specks. Hind wing pale fuscous, with pale oblique medial line and traces of a waved submarginal line; a marginal series of black specks. Underside with cell-spot, waved postmedial and submarginal lines to each wing.

Hab. Sikhim. *Exp.* 34 millim. Type in B. M.

2833. **Mastigophorus brevivittalis,** *Moore, P. Z. S.* 1867, p. 87; *C. & S.* no. 2976.

♂. Smoky black. Fore wing with antemedial narrow white band; the orbicular and reniform large and black, with white outlines; an oblique postmedial narrow white band, with a white streak from it to outer margin below apex, crossing the highly sinuous submarginal line, which is white towards the costa. Hind wing with narrow white medial band obsolete towards costa; traces of a waved postmedial line; both wings with a marginal series of black specks.

Hab. Sikhim; Khásis. *Exp.* 36 millim.

B. *Palpi of male with all the joints shorter, the 3rd not extending beyond metathorax.*

2834. **Mastigophorus chalybealis,** *Moore, P. Z. S.* 1867, p. 87, pl. 7, fig. 8; *C. & S.* no. 2977.

Dark purplish brown; the inner side of palpi white. Fore wing with the antemedial pale and dark line highly angled below costa, then obliquely sinuous to inner margin; a dark lunule at end of cell; a pale and dark postmedial obliquely sinuous line; an irregularly dentate submarginal line. Hind wing fuscous, with slight lunule at end of cell; a medial pale and dark line obsolete towards costa.

Hab. Simla; Sikhim. *Exp.* 42 millim.

2835. **Mastigophorus? dubius,** *Butl. Ill. Het.* vii. p. 89, pl. 134, fig. 4.

♀. Fuscous brown. Fore wing with waved antemedial and medial lines, the latter with the ill-defined reniform on it; an indistinct spot in the cell; the outer area dark, with waved inner edge and submarginal series of white specks.

Hab. Dharmsála. *Exp.* 38 millim.

2836. **Mastigophorus stigmatalis,** *Moore, P. Z. S.* 1867, p. 87; *C. & S.* no. 2982.

Black-brown. Fore wing with double sinuous ante- and postmedial blue-grey lines and single submarginal line; the orbicular and reniform stigmata black and round; the outer area suffused with blue-grey. Hind wing with traces of waved blue-grey lines on inner area from the middle to outer angle; both wings with a marginal series of black spots.

Hab. Sikhim. *Exp.* 40 millim.

2837. **Mastigophorus vialis,** *Moore, Lep. Atk.* p. 194; *C. & S.* no. 2984.

Yellow-brown, irrorated with black. Fore wing with indistinct slightly waved antemedial line angled below the costa; a dark lunule at end of cell; a straight oblique postmedial ochreous line

specks on costa towards apex. Hind wing with the basal area deep purplish fuscous; a dark speck at end of cell; waved medial and postmedial lines, the area between them fulvous; a submarginal series of pale specks; both wings with a marginal series of black lunules.

Hab. Ceylon. *Exp.* 22 millim.

Genus NAGADEBA.

Nagadeba, *Wlk. Cat.* xxxiv, p. 1521 (1865).

Type, *N. indecoralis*, Wlk.

Range. Sikhim; Nágas; Nilgiris; Ceylon; Burma; Andamans; Java.

Palpi very long and slender, the 2nd joint reaching far above vertex of head, the 3rd long with a tuft of hair on the inner side; antennæ minutely ciliated; thorax and abdomen smoothly scaled; tibiæ naked. Fore wing with the apex acute; the outer margin angled at middle. Hind wing with the outer margin produced to points at veins 4 and 7; the cilia crenulate; vein 5 from middle of discocellulars.

2842. **Nagadeba indecoralis**, *Wlk. Cat.* xxxiv, p. 1521; *Moore, Lep. Ceyl.* iii, pl. 174, fig. 3; *C. & S.* no. 2754.
Nagadeba ianthina, *Swinh. Trans. Ent. Soc.* 1890, p. 255.

Very dark red-brown, suffused with purplish; the wings irrorated with white. Fore wing with traces of sinuous angled antemedial and medial lines; a postmedial whitish line very much bent outwards beyond the cell; traces of a white submarginal line; a marginal fulvous line. Hind wing with sinuous postmedial white line with diffused white on each side of it; traces of a crenulate white submarginal line; a fulvous marginal line. Underside more highly coloured.

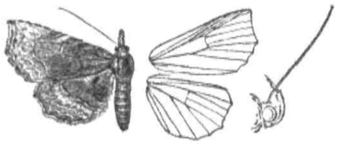

Fig. 26.—*Nagadeba indecoralis*, ♂. $\frac{3}{2}$.

Hab. Nilgiris; Ceylon; Burma; Java. *Exp.* 24 millim.

2843. **Nagadeba castanealis**, n. sp.

Differs from *indecoralis* in being much redder. Fore wing less suffused with blue-grey; a distinct waved antemedial line; a curved medial line; the postmedial line less bent out beyond cell. Hind wing with the pale line medial, and with a dark line beyond it; no crenulate submarginal line.

Hab. Sikhim (*Elwes*); Nágas (*Doherty*). *Exp.* 28 millim. Type in B. M.

2844. **Nagadeba cinerea**, n. sp.

Differs from *castanealis* in being grey-brown. Fore wing with a prominent dentate submarginal line. Hind wing with the lines as in *indecoralis*, but with a prominent dentate submarginal line.

Hab. Sikhim (*Möller*); Nágas; Andamans (*Doherty*). *Exp.* 24 millim. Type in coll. Elwes.

2845. **Nagadeba curvilineata**, n. sp.

♀. Differs from *cinerea* in the antemedial line of fore wing and the medial line of both wings being more prominent; the postmedial line highly and quite evenly curved on fore wing, straight on hind wing.

Hab. Bhután (*Dudgeon*). *Exp.* 22 millim. Type in B. M.

Genus **HYDRILLODES**.

Hydrillodes, *Guen. Delt. et Pyr.* p. 65 (1854).
Echana, *Wlk. Cat.* xvi, p. 195 (1858).
Bibacta, *Moore, Lep. Atk.* p. 197 (1882).

Type, *H. lentalis*, Guen.

Range. S. Africa; Japan; throughout India, Ceylon, and Burma; Borneo; Celebes; Australia; Fiji.

Palpi long and sickle-shaped, the 2nd joint curved over the head, the 3rd long; thorax and abdomen smoothly scaled. Fore wing with the apex usually rounded; the outer margin evenly curved; the cell short; veins 4, 5 stalked; hardly a trace of the discocellulars; 6 from upper angle of cell; 7, 8, 9, 10 stalked. Hind wing with the cell short; veins 3, 4 stalked; 5 from lower angle of cell; 6, 7 stalked.

SECT. I. Palpi of male with the 3rd joint long, curved and with slight tuft of hair; fore tibiæ fringed with hair.

A. (Hydrillodes). *Antennæ of male minutely ciliated; fore wing with the apex rounded; no costal fold and tuft nor distortion of nervules.*

2846. **Hydrillodes lentalis**, *Guen. Delt. et Pyr.* p. 66, pl. 5, fig. 3; *C. & S.* no. 2972.
Hydrillodes uliginosalis, *Guen. Delt. et Pyr.* p. 66.
Catada captiosalis, *Wlk. Cat.* xvi, p. 210.
Gizama cleobisalis, *Wlk. Cat.* xvi, p. 249.
Bocana hemusalis, *Wlk. Cat.* xvi, p. 177.
Bocana metisalis, *Wlk. Cat.* xvi, p. 183.
Bocana moloalis, *Wlk. Cat.* xix, p. 887.
Bleptina dimissalis, *Wlk. Cat.* xxxiv, p. 1162.
Bleptina latifascialis, *Wlk. Cat.* xxxiv, p. 1162.
Bocana basalis, *Moore, P. Z. S.* 1867, p. 88; *C. & S.* no. 2996.
Hydrillodes subbasalis, *Moore, P. Z. S.* 1877, p. 613, pl. 60, fig. 8; *C. & S.* no. 2973.

Palpi with the 2nd joint smoothly scaled in front. Fuscous brown; fore wing with the base dark; the antemedial area pale or reddish brown, crossed by a more or less developed, ill-defined, dark medial band; a black speck or spot sometimes present at end of cell; the outer half of wing dark, with an indistinct pale waved submarginal line. Hind wing pale, with indistinct cell-spot and postmedial line, which are prominent on underside.

The form *lentalis* is small, with the antemedial area of fore wing reddish; *uliginosalis* is large, with the antemedial area pale olive; whilst in *latifascialis* from the Andamans it is whitish.

Hab. S. Africa; Japan; throughout India, Ceylon, and Burma; Andamans; Borneo; Celebes; Australia. *Exp.* 24–30 millim.

2847. **Hydrillodes morosa**, *Butl. Ill. Het.* iii, p. 64, pl. 56, fig. 15; *C. & S.* no. 2930.

♂. Differs from *lentalis* in the 2nd joint of palpi of male being fringed with long scales in front so as to appear more angular.

The Japanese form has the subbasal area of fore wing pale: the Ceylonese form has it reddish, and the submarginal line reduced to specks.

Hab. Japan; Ceylon. *Exp.* 24 millim.

*2848. **Hydrillodes transversalis**, *Moore, P. Z. S.* 1877, p. 613; *C. & S.* no. 2974.

Pale brown. Fore wing with waved medial white line. Hind wing with the cilia chequered brown and grey. Underside pale, with medial dark band, which is sinuous on hind wing. Palpi and legs black speckled.

Hab. Andamans. *Exp.* 28 millim.

B. *Antennæ of male minutely ciliated; fore wing with veins* 6, 7, 8, 9, 10 *distorted and bent.*

2849. **Hydrillodes torsivena**, n. sp.

♂. Differs from *abavalis* in being darker; fore wing with the postmedial series of specks less prominent.

Hab. Sikhim (*Möller*). *Exp.* 32 millim. Type in coll. Elwes.

C. (Bibacta). *Antennæ of male with long cilia; fore wing with a small fold at base of costa, containing an erectile tuft of long hair; the apex truncate; vein* 11 *from angle of cell and very short.*

2850. **Hydrillodes truncata**, *Moore, Lep. Atk.* p. 198, pl. 6, fig. 25; *C. & S.* no. 2967.

♂. Dark fuscous brown. Fore wing with traces of medial and submarginal waved lines. Hind wing pale fuscous; underside with cell-spot and medial and submarginal lines.

Hab. Sikhim. *Exp.* 32 millim.

SECT. II. Palpi of male with the 3rd joint short and triangular, buried in thick hair at the end of the 2nd joint, a very long tuft of hair from the inner side of the 2nd joint, extending backwards over the head; antennæ strongly ciliated; fore tibiæ enclosed in a cap-like covering, containing a mass of flocculent hair.

A. *Fore wing with no tuft of hair on underside of costa.*

2851. **Hydrillodes gravatalis**, *Wlk. Cat.* xvi, p. 175; *Moore, Lep. Ceyl.* iii, pl. 177, fig. 12; *C. & S.* no. 2971.
Bocana erythusalis, *Wlk. Cat.* xvi, p. 177; *C. & S.* no. 2970 A.
Echana tennenti, *Feld. Reis. Nov.* pl. 120, fig. 1.

Fuscous black. Fore wing with the subbasal and antemedial lines almost obsolete; a black lunule at end of cell, with a large whitish patch beyond it crossed by the waved postmedial line; an indistinct pale waved submarginal line. Hind wing pale, especially at base, and with an indistinct cell-spot. Underside with cell-spot and pale waved medial and submarginal lines, only developed on fore wing towards costa.

Hab. Punjab; Sikhim; Nilgiris; Ceylon; Andamans; Borneo. *Exp.* 28 millim.

B. *Fore wing with a very large tuft from middle of costa on underside reaching across the cell.*

2852. **Hydrillodes nilgirialis**, n. sp.

♂. Exactly similar to typical *lentalis* except for the structural characters.

Hab. Nilgiris (*Hampson*). *Exp.* 28 millim. Type in B. M.

SECT. III. (*Echana*). Palpi of male with the 2nd joint dilated at extremity, the 3rd joint recurved over head. Fore wing with a large costal vesicular fold on upperside containing a mass of flocculent scales.

2853. **Hydrillodes abavalis**, *Wlk. Cat.* xvi, p. 196; *Moore, Lep. Ceyl.* iii, pl. 177, fig. 10; *C. & S.* no. 2965.
Echana plicalis, *Moore, P. Z. S.* 1867, p. 86, pl. 7, fig. 7; *C. & S.* no. 2966.

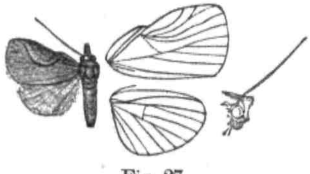

Fig. 27.
Hydrillodes abavalis, ♂. 1/1.

♂. Uniform dark fuscous brown; fore wing with indistinct submarginal series of white specks and marginal series of dark specks. The form *plicalis* from Sikhim is much larger than typical *abavalis*.

Hab. Sikhim; W. and S. India; Ceylon; Borneo. *Exp.* 22–32 millim.

Genus NODARIA.

Nodaria, *Guen. Delt. et Pyr.* p. 63 (1854).
Zanclognatha, *Led. Noct.* p. 211 (1857).
Hipœpa, *Wlk. Cat.* xvi, p. 188 (1858).
Lobocheilos, *Hmpsn. Ill. Het.* viii, p. 98 (1891).

Type, *N. externalis*, Guen.

Range. Europe; S. Africa; Mauritius; Japan; China; Formosa; throughout India, Ceylon, and Burma; Borneo.

Palpi with the 2nd joint reaching above vertex of head, the 3rd with a tuft of hair on inner side, usually in the males only; antennæ of males with long bristles and cilia; thorax and abdomen smoothly scaled. Fore wing with the apex rectangular; the outer margin rounded; veins 7, 8, 9, 10 stalked, often with a minute areole at their base. Hind wing with veins 3, 4 and 6, 7 from angles of cell or on short stalks; 5 from near middle of discocellulars.

SECT. I. Fore tibia of male with a large sheath covering the whole of the tarsus and enclosing a mass of flocculent scales.

A. *Antennæ of male knotted and contorted at middle.*

2854. **Nodaria externalis,** *Guen. Delt. et Pyr.* p. 64; *C. & S.* no. 2986.
Bocana æsopusalis, *Wlk. Cat.* xvi, p. 185.
Herminia cinerealis, *Wlk. Cat.* xxxiv, p. 1159.
Miana indecisa, *Wlk. Cat.* xxxv, p. 1957.
Diomea bryophiloides, *Butl. A. M. N. H.* (4) xvii, p. 408 (1867).
Bocana tristis, *Butl. Ill. Het.* iii, p. 65, pl. 57, fig. 2.
Hydrillodes indistincta, *Butl. P. Z. S.* 1880, p. 681.
Nodaria cingala, *Moore, Lep. Ceyl.* iii, p. 233; *C. & S.* no. 2985.
Aginna lævicula, *Swinh. P. Z. S.* 1889, p. 417, pl. 43, fig. 14.

♂. Head and thorax fuscous brown; the abdomen paler. Fore wing dark fuscous brown, with indistinct ante- and postmedial waved lines; a submarginal sinuous line, with a series of ochreous specks on it; an indistinct lunule at end of cell. Hind wing pale fuscous.

♀. Darker.

Hab. S. Africa; Mauritius; Japan; Formosa; throughout India, Ceylon, and Burma; Borneo. *Exp.* 26–30 millim.

2855. **Nodaria flavifusca,** n. sp.

♀. Dark fuscous brown, with a yellowish tinge. Fore wing with some ochreous suffusion at base; an irregular ochreous line from costa before apex to vein 6. Hind wing fuscous.

Hab. Nágas (*Doherty*). *Exp.* 36 millim. Type in coll. Elwes.

B. *Antennæ of male not knotted and contorted nor serrate.*

2856. **Nodaria innocens,** *Butl. Ill. Het.* iii, p. 63, pl. 56, fig. 10.
Zanclognatha undulata, *Moore, Lep. Atk.* p. 193; *C. & S.* no. 2970.
Herminia lineosa, *Moore, Lep. Atk.* p. 193; *C. & S.* no. 2956.

Grey-brown. Fore wing with waved ante- and postmedial lines angled below the costa; a diffused medial indistinct line; a lunule on discocellulars; a sinuous submarginal dark line, with pale outer edge; a marginal series of dark strigæ. Hind wing with indistinct medial oblique line, bent near inner margin; a submarginal line angled outwards to the margin at vein 2.

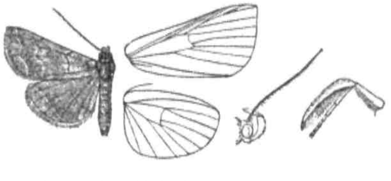

Fig. 28.—*Nodaria innocens*, ♂. ½.

Hab. Japan; Dharmsála; Sikhim; Assam; Nilgiris. *Exp.* 32 millim.

2857. **Nodaria erecta**, *Moore, Lep. Atk.* p. 193; *C. & S.* no. 2969.

Differs from *innocens* in being usually reddish brown. Fore wing with a short subbasal line; the ante- and postmedial lines not waved, the former angled below costa, the latter excurved round cell and bent near inner margin; the submarginal line quite straight. Hind wing usually whitish.

Hab. N.W. Himalayas; Sikhim; E. Pegu. *Exp.* 32 millim.

2858. **Nodaria relata**, *Hmpsn. Ill. Het.* viii, p. 99, pl. 148, fig. 5.

Differs from *erecta* in being grey-brown. Fore wing with the postmedial line angled beyond cell instead of curved. Hind wing fuscous.

Hab. Nilgiris; Ceylon. *Exp.* 26 millim.

2859. **Nodaria palumbina**, *Butl. Ill. Het.* vii, p. 88, pl. 134, fig. 9.

Differs from *erecta* in being ochreous brown. Fore wing with the reniform a large black spot; the antemedial line highly waved; the postmedial crenulate; the submarginal slightly irregular, especially below costa. Hind wing with the medial line oblique and angled outwards below cell.

Hab. Dharmsála; Sikhim. *Exp.* 30 millim.

2860. **Nodaria fractalis**, *Guen. Delt. et Pyr.* p. 60; *C. & S.* no. 2989.
Herminia raptatalis, *Wlk. Cat.* xvi, p. 164.
Gonitis pusilla, *Butl. A. M. N. H.* (4) xvi, p. 405.
Zanclognatha invenustua, *Swinh. Trans. Ent. Soc.* 1890, p. 268, pl. 8, fig. 9.

Differs from *innocens* in being redder brown. Fore wing with the postmedial line more waved and crenulate; the submarginal line angled below costa and at middle.

Hab. Natal; Poona; Ceylon. *Exp.* 34 millim.

2861. **Nodaria duplicinota,** n. sp.

Ochreous, irrorated with fuscous. Fore wing with a short subbasal line; a waved antemedial line; a white streak in end of cell with two black lunules on it; a waved postmedial line, oblique towards inner margin; a submarginal series of white specks on a diffused fuscous band; a marginal black line. Hind wing pale, suffused with fuscous; an indistinct cell-spot, postmedial and submarginal lines, the last whitish; underside with the markings prominent.

Hab. Simla; Dharmsála; Sikhim. *Exp.*, ♂ 24, ♀ 28 millim. Type in B. M.

2862. **Nodaria discisigna,** *Moore, P. Z. S.* 1883, p. 29; *C. & S.* no. 4287.

Helia lunifera, *Moore, Lep. Ceyl.* iii, p. 238; *C. & S.* no. 3042.

♀. Ochreous white. Fore wing with short subbasal band; almost straight fulvous black-speckled antemedial band; a broad medial band with a waved line on its outer edge and prominent white lunule at end of cell; a dark and whitish submarginal lunulate line; a marginal series of dark specks. Hind wing slightly suffused with fuscous; postmedial and submarginal angled lines, obsolete towards costa, the latter with pale outer edge.

Hab. Sikhim; Ceylon. *Exp.* 30 millim.

2863. **Nodaria lapsalis,** *Wlk. Cat.* xvi, p. 188; *Moore, Lep. Ceyl.* iii, pl. 177, fig. 6; *C. & S.* no. 2990.

Purplish red-brown. Fore wing with short subbasal line, waved antemedial, a medial line slightly angled on median nervure and with diffused red-brown inside it; an indistinct waved postmedial line and pale submarginal line angled outwards to margin at middle and with diffused red-brown inside it above the angle; a red-brown apical spot. Hind wing fuscous brown, with a pale submarginal line angled outwards to margin at vein 2.

Hab. Ceylon. *Exp.* 26 millim.

2864. **Nodaria duplexa,** *Moore, Lep. Atk.* p. 193, pl. 6, fig. 18; *C. & S.* no. 2953.

Differs from *duplicinota* in the colour being ochreous or fuscous. Fore wing with no white streak in and beyond the cell; the black lunule single. Hind wing white, or rarely fuscous, the markings of underside showing through. Underside with no streak in cell of fore wing; the lunule on both wings single.

Hab. Sikhim. *Exp.* 26–32 millim.

2865. **Nodaria saccharivora,** *Butl. Ill. Het.* vii, p. 87, pl. 134, fig. 7.

Mesoplectra lilacina, *Butl. Ill. Het.* vii, p. 17 (*nec Ill. Het.* iii, p. 65).

Fuscous brown, with a slight ochreous or purplish tinge. Fore

wing with short subbasal line; waved ante- and postmedial lines; dark lunule at end of cell; irregularly dentate submarginal line with diffused fuscous on its inner edge; a marginal series of black specks. Hind wing with indistinct lunule at end of cell; postmedial and submarginal lines, the latter with pale outer edge.

Sikhim specimens are clearer greyish fuscous, with the hind wing paler.

Hab. China; Simla; Dharmsála; Sikhim. *Exp.* 26 millim.

2866. **Nodaria cidarioides,** *Hmpsn. Ill. Het.* viii, p. 101, pl. 148, fig. 12.

♀. Head and thorax clothed with pale olive-green and black scales; abdomen pale, irrorated with black. Fore wing pale olive-green, irrorated with black; subbasal and antemedial sinuous lines; a pale black-ringed speck at lower angle of cell; a crenulate postmedial line; the outer area suffused with black and with a submarginal series of small white lunules; the cilia olive and black. Hind wing pale; the outer area suffused with fuscous; an antemedial dark line and submarginal pale line.

Hab. Nilgiris. *Exp.* 24 millim.

C. *Antennæ of male serrate and fasciculate.*

2867. **Nodaria albapex,** n. sp.

♂. Dark fuscous, with a slight purple gloss. Fore wing with curved antemedial black line; a lunule at end of cell; a postmedial line excurved beyond cell; a straight submarginal line; a black spot at apex, with a white patch below it. Hind wing with lunule at end of cell; an oblique postmedial line; a submarginal line bent outwards to margin near anal angle.

Hab. Nágas (*Doherty*). *Exp.* 28 millim. Type in coll. Elwes.

SECT. II. Fore tibia of male with the sheath smaller and not covering the whole tarsus.

2868. **Nodaria factitia,** *Swinh. Trans. Ent. Soc.* 1890, p. 263.

♂. Dark fuscous brown. Fore wing with fine crenulate ante- and postmedial lines; an obscure speck at end of cell. Hind wing with traces of a crenulate medial line, which is more prominent on underside.

Hab. Bassein, Burma. *Exp.* 30 millim.

SECT. III. Fore tibia of male with no sheath or mass of flocculent scales.

A. *Males with no lobe on inner margin of fore wing; legs not fringed with long hair.*

2869. **Nodaria maculifera,** *Butl. Ill. Het.* vii, p. 87, pl. 134, fig. 8.

Fuscous brown. Fore wing with waved antemedial line; black speck in cell and spot at end of it on an indistinct waved medial

line; a postmedial crenulate line incurved below end of cell, and with a dark patch beyond it on costa; a sinuous submarginal line with the area beyond it dark. Hind wing with waved ante- and postmedial lines, the latter bent inwards towards inner margin to near the antemedial line; a sinuous submarginal line; a marginal series of black specks to both wings.

Hab. Simla; Dharmsála. *Exp.* 22 millim.

2870. **Nodaria lysimeloides**, *Hmpsn. Ill. Het.* ix, p. 127, pl. 167, fig. 10.

♂. Pale red-brown. Fore wing with indistinct waved ante- and postmedial lines, the latter excurved round cell; a dark lunule on discocellulars; a submarginal pale straight line with diffused brown on its inner edge; a chocolate apical spot. Hind wing with submarginal pale line, with diffused brown on its inner edge, and angled outwards to margin at vein 2.

Hab. Ceylon. *Exp.* 22 millim.

B. *Male with the tibiæ fringed with long hair; hind tarsi with the two proximal joints also fringed.*

2871. **Nodaria nigripes**, n. sp.

♂. Fuscous brown; the legs black. Fore wing with indistinct waved ante- and postmedial lines, the latter highly angled beyond cell; a lunule on discocellulars; a submarginal straight line, the area beyond it white with black apical spot and marginal fine line. Hind wing with lunule on discocellulars; an oblique postmedial line; a submarginal line angled outwards to margin near anal angle, the area beyond it white with fuscous suffusion at apex and marginal black line.

Hab. Sikhim (*Dudgeon*); E. Pegu (*Doherty*). *Exp.* 26 millim. Type in coll. Elwes.

C. (Lobochilus). *Fore wing with a minute areole; males with a large lobe on middle of inner margin.*

2872. **Nodaria plana**, *Swinh. Trans. Ent. Soc.* 1890, p. 261.
Lobocheilos illattioides, *Hmpsn. Ill. Het.* viii, p. 98, pl. 148, fig. 10.

Pale fuscous brown. Fore wing with indistinct waved antemedial, medial, postmedial, and submarginal lines. Hind wing with antemedial, medial, and postmedial indistinct waved lines.

Hab. Nilgiris; Bassein, Burma. *Exp.* 22 millim.

2873. **Nodaria berresoides**, *Hmpsn. Ill. Het.* ix, p. 123, pl. 167, figs. 15, 18.

Differs from *plana* in being redder brown. Fore wing with a white speck in cell and lunule at end of it; no medial line; the

postmedial line bent inwards below end of cell. Hind wing with medial and postmedial lines. Both wings with marginal series of black specks.

Hab. Ceylon; E. Pegu. *Exp.*, ♂ 24, ♀ 26 millim.

D. *Antennæ of male slightly thickened and flattened at middle.*

2874. **Nodaria fusca**, n. sp.

♂. Dark fuscous. Fore wing with indistinct waved ante- and postmedial lines, the latter excurved beyond cell; a dark speck at end of cell; a submarginal series of whitish specks. Hind wing paler, with pale submarginal line almost obsolete, except towards anal angle, where it is bent out to the margin.

Hab. Sikhim (*Knyvett*); E. Pegu (*Doherty*). *Exp.* 28 millim. Type in coll. Elwes.

Genus CATADA.

Catada, *Wlk. Cat.* xvi, p. 209 (1858).
Zanclopalpus, *Hmpsn. Ill. Het.* ix, p. 127 (1893).

Type, *C. vagalis*, Wlk.

Range. Throughout India, Ceylon, and Burma: Andamans; Borneo; Gilolo.

Palpi slender, sickle-shaped, and naked, the 2nd joint reaching far above vertex of head and tapering to extremity, the 3rd very long and slender; antennæ of male somewhat thickened and flattened or minutely ciliated; thorax and abdomen smoothly scaled. Fore wing with vein 7 from upper angle of cell. Hind wing with vein 5 from middle of discocellulars, 6, 7 usually from cell.

SECT. I. (*Zanclopalpus*). Fore wing with veins 9, 10 absent.

2875. **Catada rasalis**, *Warr. A. M. N. H.* (6) viii, p. 67 (1891); *Hmpsn. Ill. Het.* ix. pl. 167, fig. 20.

Pale fuscous. Fore wing suffused with darker fuscous, except the medial area; indistinct waved antemedial, postmedial, and submarginal lines, the last with pale outer edge.

Hab. Dharmsála; Ceylon. *Exp.* 18–20 millim.

SECT. II. Fore wing with vein 9 present and stalked with 8; 10 absent.

A. *Hind wing with vein 3 present; 6, 7 from the cell.*

2876. **Catada prominens**, n. sp.

♂. Differs from *rasalis* in the ground-colour being more ochreous. Fore wing irrorated with fuscous; a waved black antemedial line; a speck in cell and spot at end of it, with a pale streak between them; a waved medial line bent outwards round end of cell; a sinuous submarginal line with diffused black on its inner edge; a

marginal series of black specks. Hind wing pale fuscous, with pale submarginal line.

Hab. Sikhim (*Elwes*). *Exp.* 20 millim. Type in coll. Elwes.

B. *Hind wing with vein 3 absent; 6, 7 stalked.*

2877. **Catada suffuscalis,** *Swinh. P. Z. S.* 1886, p. 460; *C. & S.* no. 4584.

Fuscous brown. Fore wing with indistinct short dark subbasal and sinuous antemedial lines; an ochreous black-ringed spot at end of cell; traces of a pale waved submarginal line. Hind wing pale fuscous.

Hab. Bombay; Poona; Mhow. *Exp.* 14 millim.

SECT. III. Fore wing with vein 10 present, arising from the cell or from a minute areole.

A. *Legs of male without tufts of long hair.*

2878. **Catada nigrisigna,** n. sp.

Greyish fuscous; palpi blackish; abdomen with some dorsal black marks. Fore wing with dark speck at base; a waved antemedial line; black speck in cell and spot at end of it; a postmedial waved line highly excurved beyond cell and with a darker patch on the costa beyond it; traces of a submarginal sinuous line; a marginal series of dark specks. Hind wing with antemedial sinuous line, nearly joined at inner margin by an obliquely sinuous postmedial line; traces of a submarginal line; a marginal series of dark specks.

Hab. Simla (*Harford*). *Exp.* 20 millim. Type in B. M.

2879. **Catada vagalis,** *Wlk. Cat.* xvi, p. 172; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 24; *C. & S.* no. 2988.
Catada glomeralis, *Wlk. Cat.* xvi, p. 210.

Ferruginous red-brown, with a purplish tinge. Fore wing with an indistinct waved antemedial line; a speck in cell; a postmedial white line, which may be almost straight or angled below costa; an indistinct sinuous submarginal line; some white specks on costa towards apex; cilia of both wings with pale points. Underside suffused with grey or whitish: fore wing with the disk fuscous; a white speck at upper angle of cell; a postmedial dark line angled below costa; hind wing with dark speck at upper angle of cell; an oblique crenulate postmedial line.

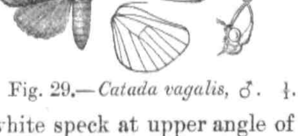

Fig. 29.—*Catada vagalis*, ♂. 1/1.

Hab. Travancore; Ceylon; Borneo; Gilolo. *Exp.* 18–26 millim.

2880. **Catada canaliferalis,** *Moore, P. Z. S.* 1877, p. 613; *C. & S.* no. 3030.

♂. Differs from *vagalis* in the fore wing being pale rust-red;

the white line broader, angled beyond cell, and with a white line on discocellulars enclosing a small triangular spot; no antemedial or submarginal lines. Hind wing with the cilia whitish.

Hab. Andamans; Borneo. *Exp.* 26 millim.

2881. **Catada renalis**, *Moore. Lep. Atk.* p. 194; *C. & S.* no. 2987.

Dark brown. Fore wing with obliquely waved antemedial dark line; black spot in cell; straight postmedial white line, with two dentitions at the discocellulars and some blue-grey beyond it; a highly dentate pale and dark submarginal line, with some pale suffusion inside it.

Hab. Khásis. *Exp.* 36 millim.

2882. **Catada purpureotincta**, n. sp.

♀. Dark fuscous brown. Fore wing slightly suffused with purplish; an indistinct curved antemedial line; an ochreous speck in cell and dark speck at end of it; a sinuous medial rufous line slightly excurved round cell, and with traces of a line beyond it; an irregular series of submarginal ochreous specks oblique below costa; a marginal series of rufous lunules. Hind wing fuscous; underside with cell-spot and postmedial line.

Hab. E. Pegu, 5000 feet (*Doherty*). *Exp.* 28 millim. Type in coll. Elwes.

2883. **Catada picta**, *Moore, Lep. Atk.* p. 195, pl. 6, fig. 21; *C. & S.* no. 3003.

♂. Head and thorax ferruginous; a metallic blue-black tuft of scales on metathorax; abdomen fuscous, the proximal segments clothed dorsally with rufous hair. Fore wing with the basal half bright ferruginous, with a small ring-spot in cell and bounded by an oblique white line, slightly bent outwards at end of cell, where there is a narrow white lunulate mark defined by black streaks; the outer area dark red-brown; traces of a submarginal series of dark spots, with a few white scales on them; a paler patch on outer margin below apex, continued as a pale line to outer angle. Hind wing fuscous.

Hab. Khásis; Nágas. *Exp.* 34 millim.

B. *Mid and hind tibiæ tufted with hair.*

2884. **Catada bipartita**, *Moore, Lep. Atk.* p. 182; *C. & S.* no. 2727.

♂. Head, thorax, and abdomen deep red-brown or purplish brown. Fore wing dark red-brown as far as the medial line, which has two sinuations in it; a waved antemedial line; the outer area paler brown, suffused with purple; the area at outer angle sometimes rufous with a fuscous patch above it; a submarginal lunulate fuscous line, with slight ochreous patch inside its medial part, or replaced by a series of indistinct grey spots. Hind wing fuscous brown, with marginal ochreous line.

Hab. Khásis; Nágas. *Exp.* 34–40 millim.

C. *Mid legs of male with a tuft of long hair from femoro-tibial join*

2885. **Catada albolineata**, n. sp.

Dark red-brown; palpi with the base of 3rd joint white. For wing with a pure white obliquely waved medial line; a straigh submarginal ochreous line; some white specks on costa toward apex; both wings with a series of ochreous cilial specks.

Hab. Simla (*Harford*); Sikhim (*Möller*). *Exp.* 25 millim. Type ♂ in coll. Elwes, ♀ in B. M.

2886. **Catada nigribasis**, *Swinh. MS.*

♂. Head, thorax, and abdomen purplish grey-brown; palp black. Fore wing purplish grey-brown, with a large jet-blacl basal patch with oblique outer edge; a dark speck at end of cell the costal area darker towards apex; a sinuous white submargina line. Hind wing fuscous. Abdomen long. (Mid legs wanting.)

Hab. Khásis. *Exp.* 22 millim.

Genus ARÆOPTERUM.

Aræopteron, *Hmpsn. Ill. Het.* ix, p. 136 (1893).

Type, *A. pictale*, Hmpsn.

Range. Ceylon.

Palpi slender and sickle-shaped, reaching just above vertex o head; antennæ almost simple; thorax and abdomen smoothly scaled; tibiæ naked. Fore wing rather long and narrow; the apex rounded; veins 3, 4 stalked; 6 from below angle of cell; 7 from angle; 8, 9, 10, 11 stalked. Hind wing with veins 3, 4 and 6, 7 stalked; 5 from middle of discocellulars.

2887. **Aræopterum pictale**, *Hmpsn. Ill. Het.* ix, p. 137, pl. 168, fig. 19

♂. Head and thorax purplish white; palpi black; abdomen fulvous. Fore wing purplish white, irrorated with fuscous; fuscous specks on costa and suffusion on disk, below apex, and at outer angle; yellow specks in and at end of cell; a series of dark marginal specks. Hind wing with the discal area fulvous; a dark subbasal line and lunule on discocellulars; the apex fuscous; a marginal series of dark specks.

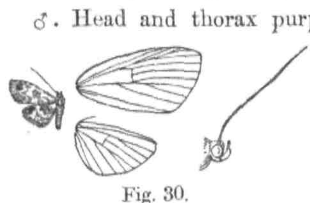

Fig. 30.
Aræopterum pictale, ♂. 1/1.

Hab. Ceylon. *Exp.* 16 millim.

Genus NIACCABA.

Niaccaba, *Wlk. Cat.* xxxiv, p. 1272 (1865).

Type, *N. sumptualis*, Wlk.

Range. Ceylon.

Palpi sickle-shaped, slender, and reaching above vertex of head,

the 3rd joint minute; antennæ of male ciliated. Fore wing with the apex acute; the outer margin excurved at vein 4, then very oblique to outer angle; veins 3, 4 stalked, 6 from below angle of cell, 7 from angle; 8, 9 stalked from before angle; 10 absent. Hind wing with the outer margin excised between veins 6 and 4; veins 3, 4 stalked; 5 from near middle of discocellulars; 6, 7 from upper angle of cell.

2888. **Niaccaba sumptualis**, *Wlk. Cat.* xxxiv, p. 1272; *Hmpsn. Ill. Het.* ix, pl. 171, fig. 3; *C. & S.* no. 4405.

♂. Pale brown, suffused with pink. Fore wing with some black specks on the costa; an oblique line from middle of costa to near base of inner margin; the cilia pink. Hind wing more suffused with pink, especially on outer area, and irrorated with rufous specks; indistinct subbasal, ante- and postmedial waved lines; a subapical yellowish semihyaline spot.

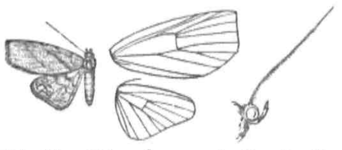

Fig. 31.—*Niaccaba sumptualis*, ♂. 1/1.

Hab. Ceylon. *Exp.* 12 millim.

Genus OLULIS.

Olulis, *Wlk. Cat.* xxvii, p. 126 (1863).
Hamaxia, *Wlk. Cat.* xxvii, p. 128.
Phachthia, *Wlk. Cat.* xxx, p. 979 (1864).

Type, *O. puncticinctalis*, Wlk.

Range. Nága Hills; Ceylon; Borneo.

Palpi with the 2nd joint reaching above vertex of head, the 3rd long and naked; antennæ ciliated; thorax and abdomen without tufts. Mid legs of male with a large tuft of hair from base of tibiæ. Fore wing long and narrow, the apex acute; the outer margin angled at middle; veins 8, 9, 10 from before the angle and stalked. Hind wing with veins 3, 4 stalked; 5 from near middle of discocellulars.

2889. **Olulis puncticinctalis**, *Wlk. Cat.* xxvii, p. 127.
Hamaxia lignulina, *Wlk. Cat.* xxvii, p. 128; *C. & S.* no. 4644.
Phachthia lignigeralis, *Wlk. Cat.* xxx, p. 979.

Head, thorax, and fore wing ochreous, the last with oblique medial diffused line from costa to lower angle of cell; traces of a waved and curved postmedial line; a marginal series of dark specks; minute red specks in and at end of cell and beyond the lower angle. Hind wing pale ochreous, the outer half rosy pink.

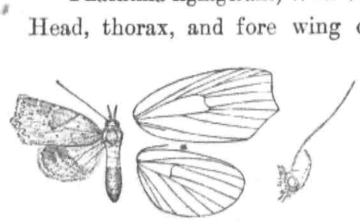

Fig. 32.—*Olulis puncticinctalis*, ♀. 1/1.

Hab. Nágas; Ceylon; Borneo. *Exp.* 28 millim.

Genus TALAPA.

Talapa, *Moore, P. Z. S.* 1867, p. 82.

Type, *T. caliginosa*, Wlk.

Range. Sikhim; Khásis; Nágas; Ceylon.

Palpi obliquely porrect, the 2nd and 3rd joints long, the 2nd clothed with hair; antennæ minutely ciliated in male; thorax and abdomen smoothly scaled; tibiæ hairy. Fore wing with the apex produced and acute. Hind wing with vein 5 from lower angle of cell.

SECT. I. Fore wing with the outer margin slightly angled at vein 4.

2890. **Talapa caliginosa,** *Wlk. Cat.* xxxiii. p. 1017.

Talapa caliginosalis, *Moore, P. Z. S.* 1867, pl. 7, fig. 6; *C. & S.* no. 2849.

♂. Head and thorax dark red-brown; abdomen fuscous. Fore wing dark red-brown, slightly irrorated with grey scales; almost straight oblique medial and postmedial dark lines with grey inner edges. Hind wing dark fuscous, with crenulate marginal line. Underside reddish, with dark postmedial and indistinct submarginal lines; hind wing with cell-spot.

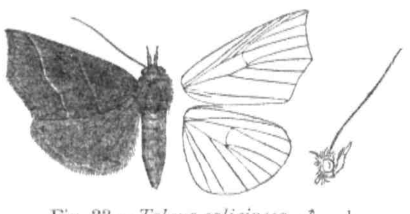

Fig. 33.—*Talapa caliginosa*, ♂. ½.

♀. Much redder.

Hab. Sikhim. *Exp.*, ♂ 42, ♀ 52 millim.

2891. **Talapa rufilineata,** n. sp.

♂. Grey; the wings irrorated with rufous. Fore wing with oblique antemedial, medial, and postmedial straight rufous lines; the costa rufous; a subapical jet-black spot, with a rufous band from it to costa, and traces of a curved line from it to outer margin; a submarginal series of rufous specks. Hind wing with antemedial and two postmedial oblique rufous straight lines; both wings with waved marginal rufous lines.

Hab. Nágas (*Doherty*). *Exp.* 44 millim. Type in coll. Elwes.

2892. **Talapa griseifusa,** n. sp.

Head and thorax dark red-brown. Fore wing dark red-brown, suffused with blue-grey; an antemedial diffused erect dark line; medial and postmedial ill-defined irregular lines, the former with grey lunule on it at end of cell; a double submarginal straight oblique line, filled in with rufous and not reaching apex, with black subapical and medial patches beyond it. Abdomen and hind wing brown, the latter with traces of postmedial line.

The Nága female has the medial line of fore wing and postmedial line of hind wing double, and orange specks at the angle of cell of fore wing instead of the lunule on discocellulars.

Hab. Sikhim (*Elwes*); Nágas (*Doherty*). *Exp.* 40–42 millim. Type in coll. Elwes.

SECT. II. Fore wing with the outer margin not angled.

A. *Palpi with the 3rd joint not fringed with hair above.*

2893. **Talapa transvitta**, *Moore, Lep. Ceyl.* iii, p. 551, pl. 215, fig. 1; *C. & S.* no. 2710.

Bright red-brown. Fore wing with indistinct waved antemedial line bent outwards below median nervure; a speck in cell, a slightly oblique medial line with the area beyond it darker and shading off to the marginal area; a crenulate postmedial line and indistinct waved submarginal line; a marginal series of dark specks. Hind wing fuscous brown, with three indistinct waved lines on outer area. Underside with a white spot at end of cell of each wing and some waved lines on outer area.

Hab. Ceylon. *Exp.* 36 millim.

B. *Palpi with the 3rd joint fringed with hair above.*

2894. **Talapa albigutta**, *Swinh. MS.*

♀. Dark fuscous suffused with grey. Fore wing with a deep black subbasal patch below median nervure; traces of an antemedial line; an inverted comma-shaped white mark on a blackish patch on discocellulars; a postmedial line with a rufous tinge excurved round end of cell, and with an irregularly dentate line beyond it, incurved below vein 3; a marginal crenulate line. Abdomen and hind wing fuscous.

Hab. Khásis. *Exp.* 44 millim.

Genus SINGARA.

Singara, *Wlk. Cat.* xxxiii, p. 1113 (1865).

Type, *S. diversalis*, Wlk.

Range. Sikhim; Sylhet; Nágas.

Palpi with the 2nd joint porrect and very long, the 3rd of moderate length, upturned, and tufted with hair; antennæ fasciculated in male; thorax and abdomen smoothly scaled; tibiæ fringed with long hair. Fore wing with the apex nearly rectangular.

2895. **Singara diversalis**, *Wlk. Cat.* xxxiii, p. 1113; *C. & S.* no. 2819

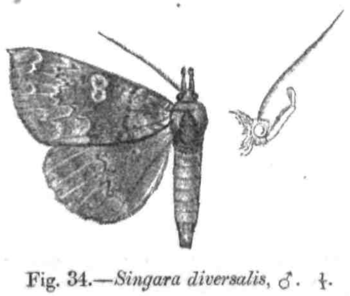

Fig. 34.—*Singara diversalis*, ♂. ½.

♂. Orange, uniformly suffused with crimson or blotched with crimson and fuscous. Fore wing with indistinct straight oblique antemedial line; the reniform an indistinct yellow patch with two red spots on it; a crenulate postmedial line much incurved below cell; an indistinct lunulate submarginal line. Hind wing with traces of a crenulate postmedial line; both wings with marginal series of specks.

Hab. Sikhim; Sylhet; Nágas. *Exp.* 52 millim.

Genus **CAMPTOCHILUS**, nov.

Type, *C. viola*, Hmpsn.
Range. Sikhim.

Palpi very long, the 2nd joint obliquely upturned and fringed above with long hair, the 3rd with a large tuft on inner side; antennæ bipectinated in male; thorax and abdomen smoothly scaled; tibiæ naked. Fore wing with the costa angled at middle; the apex acute; the outer margin angled and hooked at middle, then crenulate to outer angle; veins 7, 8, 9, 10 stalked and given off before angle of cell. Hind wing with veins 3, 4 and 6, 7 from cell; 5 from lower angle.

2896. **Camptochilus viola**, n. sp.

♂. Very pale reddish brown, suffused with bluish white. Fore wing with ante- and postmedial slightly waved indistinct pale lines and traces of a submarginal line. Hind wing with traces of postmedial and submarginal pale lines, which are more distinct on underside.

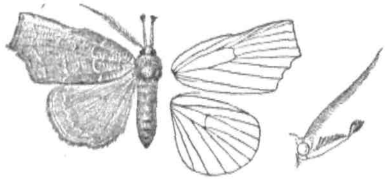

Fig. 35.—*Camptochilus viola*, ♂. 1/1.

Hab. Sikhim, 5000 feet (*Elwes*). *Exp*. 40 millim. Type in coll. Elwes.

Genus **LATIROSTRUM**, nov.

Type, *L. bisacutum*, Hmpsn.
Range. Himalayas.

Palpi very long and porrect, the 2nd joint fringed with very long hair above, and tapering to extremity, the 3rd spatulate at tip; antennæ of male ciliated; thorax and abdomen smoothly scaled; tibiæ hairy. Fore wing long and narrow; the costa arched at

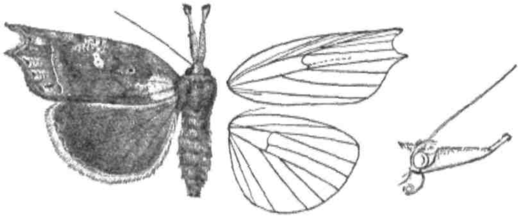

Fig. 36.—*Latirostrum bisacutum*, ♂. 1/1.

base and then straight; the outer margin produced to points at apex and vein 4; vein 5 almost obsolete; 8 and 9 anastomosing to form the areole. Hind wing with veins 3, 4 and 6, 7 from cell, 5 from near middle of discocellulars.

2897. **Latirostrum bisacutum**, n. sp.

♂. Red-brown. Fore wing with a yellowish patch on basal inner area; black specks on a yellow ground in and at end of cell, the latter with a yellow patch above it on costa; an indistinct submarginal slightly sinuous black line; a yellow subapical spot, and patch on outer margin below middle; a marginal series of black specks. Hind wing fuscous, with the cilia yellow. Underside yellow, irrorated with black; both wings with black postmedial line; hind wing with cell-spot.

Hab. Mussooree; Sikhim (*Möller*). *Exp.* 56 millim. Type in coll. Elwes.

Genus **CORCOBARA**.

Corcobara, *Moore, Lep. Atk.* p. 186 (1882).

Type, *C. angulipennis*, Moore.

Range. Sikhim; Ceylon; Singapore.

Palpi porrect, the 2nd and 3rd joints very long and thickly fringed with hair on both sides; a short sharp frontal tuft; thorax and abdomen smoothly scaled; tibiæ moderately hairy. Fore wing with the apex depressed and acute; the outer margin angled at vein 4; the inner margin highly arched, and forming a continuous curve with the outer margin as far as the angle; veins 8 and 9 anastomosing to form the areole. Hind wing with the costa slightly excised; vein 5 from the lower angle of cell.

2898. **Corcobara angulipennis**, *Moore, Lep. Atk.* p. 186, pl. 6, fig. 16; *C. & S.* no. 2852.

Corcobara thwaitesi, *Moore, Lep. Ceyl.* iii, p. 218, pl. 176, figs. 2, 2 *a*, *b* (larva); *C. & S.* no. 2853.

♂. Head and thorax dark red-brown; abdomen orange, blackish at extremity. Fore wing glossy red-brown, with numerous dark striæ; two specks at end of cell. Hind wing orange, with a large fuscous-black spot near apex. Underside orange; fore wing with dark specks on costa and outer margin; a dark submarginal band hind wing with dark specks on costa and spot near apex.

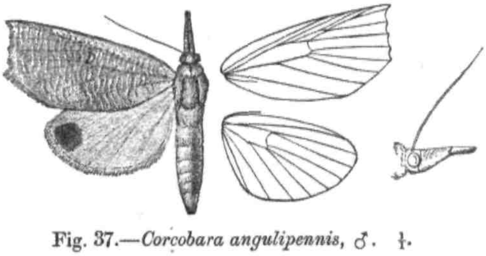

Fig. 37.—*Corcobara angulipennis*, ♂. ½.

Some specimens have the basal inner area of fore wing speckled with yellow and a medial ill-defined yellow band from cell to inner margin.

♀. With the fore wing very much paler.

Larva with the first two pairs of abdominal prolegs rudimentary; a conical dorsal hump on 11th somite; colour greyish brown above, purplish beneath; the sides greyish, with a longitudinal brown line; spiracles black; head ochreous, with a black spot in front.

Hab. Sikhim; Ceylon; Singapore. *Exp.*, ♂ 42, ♀ 50 millim.

Genus **ANORATHA**.

Anoratha, *Moore, P. Z. S.* 1867, p. 82.

Type, *A. costalis*, Moore.

Range. Sikhim; Nilgiris: Ceylon.

Palpi porrect, the 2nd joint extremely long with a downward curve, its upperside fringed with scales; the 3rd joint long and depressed. Thorax and abdomen smoothly scaled, the latter very long in male. Fore wing with the costa arched towards apex, which is produced and acute, more so in the male than the female; the outer margin excurved at middle, especially in male. Hind wing with veins 3 and 4 on a short stalk; 5 from the middle of discocellulars; the outer margin excised towards anal angle in male.

2899. **Anoratha costalis**, *Moore, P. Z. S.* 1867, p. 82, pl. 7, fig. 10; *C. & S.* no. 2850.

Head pale; palpi black at sides; thorax dark red-brown; abdomen fuscous. Fore wing dark rich red-brown; a whitish costal fascia; a straight erect postmedial white line, with a rufous spot beyond it on vein 5. Hind wing pale fuscous, with indistinct pale postmedial line; underside with dark cell-spot and postmedial line.

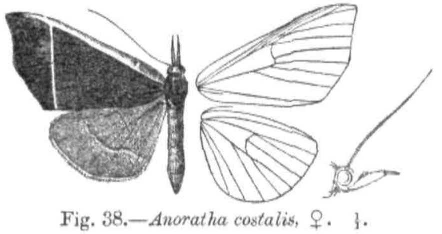

Fig. 38.—*Anoratha costalis*, ♀. ½.

Hab. Sikhim. *Exp.* 54 millim.

2900. **Anoratha paritalis**, *Wlk. Cat.* xvi, p. 65; *Moore, Lep. Ceyl.* iii, pl. 176, figs. 7, 7 *a*; *C. & S.* no. 2851.

Head and thorax pale chestnut; palpi black at sides; abdomen fuscous. Fore wing pale chestnut, irrorated with a darker tint; the costa slightly paler; an indistinct antemedial angulated line; a postmedial oblique line; some indistinct submarginal specks. Hind wing fuscous; the cilia chequered rufous and fuscous; underside with indistinct cell-spot and postmedial line.

The Sikhim form is large and dark, with the costa of fore wing purplish.

Hab. Sikhim; Nilgiris; Ceylon. *Exp.* 42–52 millim.

Genus MARAPANA.

Marapana, *Moore, Lep. Ceyl.* iii, p. 227 (1885).
Sarcopteron, *Hmpsn. Ill. Het.* ix, p. 115 (1893).

Type, *M. pulverata*, Guen.

Range. Assam; Ceylon; Burma; Sumatra; Java; Borneo.

Palpi with the 2nd joint very long and porrect, the 3rd obliquely upturned; no frontal tuft; antennæ minutely ciliated in male. Fore wing with the apex somewhat acute; veins 8 and 9 anastomosing to form the areole. Hind wing with the anal angle truncate; veins 3 and 4 sometimes on a short stalk; 5 from just below middle of discocellulars.

SECT. I. (*Marapana*). Palpi with the 2nd and 3rd joints fringed with long hair on upperside; fore wing with vein 10 from the areole.

2901. **Marapana incongrualis**, *Wlk. Cat.* xvi, p. 232; *Moore, Lep. Ceyl.* iii, pl. 177, fig. 5; *C. & S.* no. 2925.

Head, thorax, and fore wing ochreous, with a slight reddish tinge, the last slightly irrorated with dark scales, and with indistinct antemedial, medial, and postmedial waved lines; two dark specks on the discocellulars, some on costa towards apex, and submarginal and marginal series. Hind wing with the basal area pale; the outer area fuscous; underside with cell-spot and medial and postmedial waved lines.

Hab. Ceylon. *Exp.* 24 millim.

2902. **Marapana plagifera**, *Wlk. J rn. Linn. Soc.* vii, p. 187.

Differs from *incongrualis* in being much pinker; fore wing with the submarginal line more sinuous. Hind wing crimson, with large black apical patch.

In the Nága specimen the outer margin of fore wing is slightly angled at middle, and the whole costal area of hind wing black.

Hab. Nágas; Sumatra; Borneo. *Exp.* 26 millim.

2903. **Marapana nisalis**, *Wlk. Cat.* xix, p. 845; *Hmpsn. Ill. Het.* ix, pl. 166, fig. 16; *C. & S.* no. 2776.
Hypena rubripunctalis, *Wlk. Cat.* xvi, p. 233.

Differs from *incongrualis* in being redder. Fore wing with four waved lines; no dark specks at end of cell; the outer area suffused with red. Hind wing without black suffusion; a dark speck in cell; four indistinct waved rufous lines; a submarginal series of black specks and marginal crenulate pink line. Underside of fore wing red; hind wing with two red lines and submarginal series of black specks.

Hab. Ceylon. *Exp.* 24 millim.

2904. **Marapana pulverata**, *Guen. Noct.* iii, p. 351; *C. & S.* no. 2765.
Hypena raralis, *Wlk. Cat.* xvi, p. 65; *C. & S.* no. 2926.
Hypena truncatalis, *Wlk. Cat.* xxxiv, p. 1513.

Brick-red; palpi black. Fore wing with a black speck in the cell; both wings with a dark oblique postmedial line, with pale inner edge and traces of submarginal and marginal series of specks.

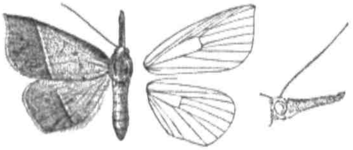

Fig. 39.—*Marapana pulverata*, ♂. ½.

Hab. Margharita, Assam; Ceylon; Rangoon; Java. *Exp.* 36 millim.

SECT. II. (*Sarcopterum*). Palpi with the 2nd joint only fringed at extremity, the 3rd naked; fore wing with vein 10 from beyond the areole.

2905. **Marapana punctimargo**, *Hmpsn. Ill. Het.* ix, p. 115, pl. 166, fig. 22.

Reddish ochreous brown; the collar darker; abdomen with fuscous marks above. Fore wing with traces of a waved rufous antemedial line; a black speck in cell; a waved diffused medial fuscous line and traces of two similar postmedial lines; two black specks at end of cell; a marginal series of black specks to both wings. Underside of hind wing with black cell-spot and curved rufous postmedial line.
Hab. Ceylon. *Exp.* 28 millim.

Genus DICHROMIA.

Dichromia, *Guen. Delt. et Pyr.* p. 18 (1854).

Type, *D. orosia*, Cram.
Range. Persia; Japan; China; throughout India, Ceylon, and Burma; Java; Australia.
Palpi roughly scaled, the 2nd joint long and porrect, the 3rd obliquely upturned and ending in a naked point; a sharp frontal tuft; antennæ minutely ciliated in male. Fore wing with the apex depressed and slightly acute; veins 8 and 9 anastomosing to form the areole. Hind wing with veins 3 and 4 from angle of cell: 5 from below middle of discocellulars; 6 and 7 from upper angle.

2906. **Dichromia orosia**, *Cram. Pap. Exot.* iii, pl. 275 D; *C. & S.* no. 2844.

Head and thorax clothed with grey black-mottled scales; abdomen orange. Fore wing grey, irrorated with black-brown; a large subtriangular black patch with pale edges occupying the medial

area, but not reaching the inner margin, its outer edge slightly angled at veins 5 and 2; the apical area suffused with fuscous black. Hind wing orange; the apical area black. Underside of fore wing fuscous.

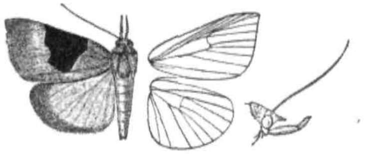
Fig. 40.—*Dichromia orosia*, ♂. ½.

Larva pale green; the head and somites with series of small black tubercles.

Hab. China; throughout India, Ceylon, and Burma. *Exp.* 36 millim.

2907. **Dichromia trigonalis**, *Guen. Delt. et Pyr.* p. 19; *C. & S.* no. 2847.
Dichromia sextalis, *Wlk. Cat.* xvi, p. 15.
Dichromia amica, *Butl. Ill. Het.* ii, p. 55, pl. 38, fig. 3.
Bomolocha opulenta, *Christ. Hor. Soc. Ent. Ross.* xii, p. 258, pl. vii, fig. 29.

Differs from *orosia* in being rather darker and browner. Fore wing with the subtriangular mark almost reaching the inner margin; traces of a fuscous submarginal band, crossed by a faint curved streak from the apex. Underside of fore wing with a white subapical speck.

Hab. Astrabad; Japan; China; Formosa; throughout the Himalayas; Khásis. *Exp.* 36 millim.

2908. **Dichromia triplicalis**, *Wlk. Cat.* xvi, p. 16; *C. & S.* no. 2848.

Differs from *trigonalis* in the head and thorax being black-brown. Fore wing black-brown, irrorated with grey, especially on basal area, which is defined by an obscure oblique line beyond the nearly straight and erect postmedial white line and on outer area; no medial triangular patch.

Hab. Sikhim; Bhután; Khásis. *Exp.* 42 millim.

2909. **Dichromia quadralis**, *Wlk. Cat.* xvi, p. 14; *C. & S.* no. 2846.
Dichromia mollis, *Swinh. Trans. Ent. Soc.* 1891, p. 481.

Differs from *triplicalis* in the basal area of the fore wing being grey, with a fawn-coloured fascia on inner margin, to the postmedial line, which is less regular; a pale band beyond the line joined by a curved streak from the apex, with irregular inner edge and some dark marks below the streak on the edge of the pale band.

Hab. Dalhousie; Dharmsála; Sikhim; Khásis; Rangoon. *Exp.* 34–42 millim.

2910. **Dichromia pullata**, *Moore, Lep. Ceyl.* iii, p. 221, pl. 176, fig. 4; *C. & S.* no. 2845.

Differs from *quadralis* in the basal patch and fascia of the fore

wing being darker; a white speck in the cell; the postmedial line straighter, with the band beyond it whiter; some white marginal specks. Hind wing white, with the apical black area very large, and broad as far as vein 2; the costal and inner areas blackish.

Hab. W. and S. India; Ceylon. *Exp.* 34 millim.

Genus RHYNCHINA.

Rhynchina, *Guen. Delt. et Pyr.* p. 20 (1854).

Type, *R. pionealis*, Guen.

Range. Palæarctic and Oriental regions; W. Africa; Australia.

Palpi with the 2nd joint very long and fringed with long hair on upperside, the 3rd obliquely upturned and scaled to half its length; a sharp frontal tuft; metathorax with a slight tuft; abdomen without tufts; tibiæ not hairy. Fore wing long and narrow; the apex acute, the outer margin oblique; no raised tufts in cell. Hind wing with vein 5 from above lower angle of cell.

SECT. I. Antennæ of male minutely serrate and fasciculate, with long cilia.

A. *Palpi long, fringed with shortish hair above; fore wing with outer margin obliquely curved.*

2911. **Rhynchina abducalis**, *Wlk. Cat.* xvi, p. 66; *C. & S.* no. 2861.
Hypena undulalis, *Wlk. Cat.* xxxiv, p. 1138; *C. & S.* no. 2921.
Hypena curviferalis, *Wlk. Cat.* xxxiv, p. 1510.
Hypena columbaris, *Butl. Ill. Het.* ii, p. 55, pl. 38, fig. 7.
Hypena vigens, *Butl. Ill. Het.* ii, p. 55, pl. 38, fig. 4.
Hypena incurvata, *Moore, Lep. Atk.* p. 189; *C. & S.* no. 2883.
Hypena angustalis, *Warr. P. Z. S.* 1888, p. 317; *C. & S.* no. 2862 A.
Hypena curvilinea, *Hmpsn. Ill. Het.* viii, p. 98, pl. 148, fig. 18.

Pale reddish brown or grey. Fore wing with a curved dark and pale line from apex to below angle of cell, and thence to base, and with two or three less distinct dark lines outside it; the area above it suffused with brown, the veins paler; dark specks at middle and end of cell; a dark marginal line.

In *abducalis* and *curviferalis* the curved line is almost straight from vein 4 to 1; in the former the dark suffusion above it is very prominent, and with a pale and dark line on its upper edge, the veins more prominently pale. In *curvilinea* from the Nilgiris the ground-colour is greyish white; the markings of fore wing very prominent, and the line evenly curved.

Hab. Japan; China; Chusan Isl.; throughout India; Andamans; Java. *Exp.* 36–38 millim.

B. *Palpi shorter, fringed with long hair above; fore wing with the outer margin straight and less oblique.*

2912. **Rhynchina striga**, *Feld. Reis. Nov.* pl. 109, fig. 29; *C. & S.* no. 2960.
Hormisa morosa, *Butl. A. M. N. H.* (5) iv, p. 446.

Bright brownish ochreous; the male darker than the female.

Fore wing with an oblique white line from apex to below angle of cell, where it joins a whitish or pale fuscous fascia on inner margin; traces of a dark submarginal line. Hind wing yellowish brown.

The form *morosa* from Japan is darker.

Hab. Japan; Simla; Dharmsála; North Chin Hills. *Exp.* 28 millim.

2913. **Rhynchina pervulgaris**, *Swinh. P. Z. S.* 1885, p. 471, pl. 28, fig. 5; *C. & S.* no. 2858.

Rhynchina xylina, *Swinh. P. Z. S.* 1886, p. 452; *C. & S.* no. 2860.

Dull reddish brown. Fore wing with waved antemedial line on an indistinct grey band; a similar postmedial line highly excurved round the greyish reniform; an indistinct waved submarginal line. Hind wing pale fuscous.

The form *pervulgaris* has the base of fore wing and inner border of postmedial line pale, whilst *xylina* is more uniform brown.

Hab. Bombay; Poona; Mhow; Thyetmyo, Burma. *Exp.* 16–18 millim.

C. *Palpi very long and fringed with long hair above. Fore wing narrow; the apex very acute, and outer margin more oblique.*

2914. **Rhynchina pionealis**, *Guen. Delt. et Pyr.* p. 21; *C. & S.* no. 2859.

Hormisa cramboides, *Butl. Ill. Het.* iii, p. 62, pl. 56, fig. 6.
Rhynchina angustata, *Butl. Ill. Het.* vii, p. 84, pl. 133, fig. 15.
Rhynchina uniformis, *Butl. Ill. Het.* vii, p. 84, pl. 133, fig. 13.
Rhynchina rivuligera, *Butl. Ill. Het.* vii, p. 84, pl. 133, fig. 14.

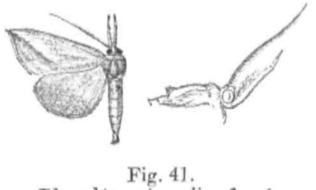

Fig. 41.
Rhynchina pionealis, ♂. 1.

Greyish ochreous brown. Fore wing with an oblique white line from apex to below angle of cell; an obscure dark submarginal line. Hind wing fuscous brown.

The form *rivuligera* has the oblique line bent below angle of cell, and then running to the base with chestnut on each side of it; *uniformis* has the markings almost obsolete.

Hab. Japan; Dharmsála; Nilgiris. *Exp.* 38 millim.

D. *Fore wing with the apex less acute; the outer margin more curved and less oblique; a tooth of scales at outer angle.*

2915. **Rhynchina angulata**, *Wlk. Trans. Ent. Soc.* (3) i, p. 88; *C. & S.* no. 2334.

Rhynchina angulifascia, *Moore, Lep. Atk.* p. 188; *C. & S.* no. 2857.
Rhynchina cærulescens, *Butl. Ill. Het.* vii, p. 83, pl. 133, fig. 12.
Rhynchina plusioides, *Butl. Ill. Het.* vii, p. 82, pl. 133, fig. 9.
Rhynchina sagittata, *Butl. Ill. Het.* vii, p. 83, pl. 133, figs. 10, 11.

The typical form differs from *pionealis* in the fore wing being dark grey, with chestnut below apex and in the angle of the white line which runs to the base and is prominent and double below the

angle of cell, where there is a white spot; the submarginal line pale, with some dark streaks between it and the oblique line.

In the form *angulifascia* the colour of the male is ochreous, with the oblique line chestnut and bent down to middle of inner margin instead of running to the base; the female is uniform fulvous, with white speck at angle of cell, the line single, bent, and running to the base. In *plusioides* there is an indistinct angled antemedial line; obscure orbicular and reniform spots; the postmedial line angled below costa, curved beyond cell, then double and running to middle of inner margin; an obscure apical streak with dark sagittate marks below it; an indistinct dentate submarginal line; colour dark vinous brown, the area beyond the oblique line tinged with fulvous. In a Nilgiri form the oblique line is almost straight from the angle below costa. In *sagittata* the colour is duller and more uniform brown, with the line more uniformly excurved round cell; the palpi often somewhat shorter.

Hab. N.W. Himalayas; Nilgiris. *Exp.* 30–35 millim.

SECT. II. Antennæ of male bipectinated; palpi and shape as in *pionealis*.

2916. **Rhynchina sigillata**, *Butl. Ill. Het.* vii, p. 75, pl. 131, fig. 11.

Differs from the form *plusioides* of *angulata* in having the ground-colour blackish fuscous; the reniform grey or olive; a black streak above outer angle.

Hab. Dharmsála; Dalhousie. *Exp.* 30 millim.

Genus HYPENA.

Hypena, *Schrank, Fauna Boica*, ii, 2, p. 163 (1802).
Ophiuche, *Hübn. Verz.* p. 344 (? 1818).
Bomolocha, *Hübn. Verz.* p. 343.
Naarda, *Wlk. Cat.* xxxv, p. 1694 (1866).
Mathura, *Moore, Lep. Atk.* p. 188 (1882).
Harita, *Moore, Lep. Atk.* p. 187.
Apanda, *Moore, Lep. Atk.* p. 186.
Ptyophora, *Hmpsn. Ill. Het.* ix, p. 123 (1893).

Type, *H. rostralis*, Linn., from Europe.

Range. Universally distributed.

Antennæ minutely ciliated in male; an acute frontal tuft; thorax smoothly scaled; abdomen with dorsal tufts; mid and hind tibiæ but slightly hairy. Fore wing with the apex acute and depressed.

SECT. I. (*Hypena*). Palpi extremely long and porrect, the 2nd and 3rd joints fringed on both sides with long hair; abdominal tufts on first two segments.

A. *Fore wing long and narrow; the raised tufts well developed.*

2917. **Hypena longipennis**, *Wlk. Cat.* xxxiv, p. 1139; *C. & S.* no. 2893.

♂. Dark fuscous. Fore wing irrorated with black; the costal

area greyish, most prominently so at apex, where it has black suffusion below it; the raised tufts black; an indistinct submarginal series of specks.

♀. Considerably paler and redder fuscous; the raised tufts at middle of cell sometimes forming a large oblique streak.

Hab. Dharmsála; Sikhim; Khásis. *Exp.* 40 millim.

2918. **Hypena elongalis**, *Fabr. Ent. Syst.* iii, pars 2, p. 221; *C. & S.* no. 2875.

Hypena radicalis, *Swinh. P. Z. S.* 1889, p. 416.

Differs from *longipennis* in the fore wing being less produced at apex, and consequently shorter and the outer margin less oblique.

Hab. Nilgiri plateau; Travancore. *Exp.* 32-44 millim.

B. *Fore wing much broader; the outer margin less oblique; the raised tufts slight.*

2919. **Hypena proboscidalis**, *Linn. Syst. Nat.* i, 2, p. 881; *Hübn. Samml. Eur. Schmett., Pyr.* pl. ii, fig. 7; *C. & S.* no. 2908.

Phalæna ensalis, *Fabr. Ent. Syst.* iii, pars 2, p. 221.

Hypena indicalis, *Guen. Delt. et Pyr.* p. 31; *C. & S.* no. 2884.

Hypena cervinalis, *Moore, P. Z. S.* 1867, p. 83; *C. & S.* no. 2866.

Hypena ochreipennis, *Moore, Lep. Atk.* p. 188; *C. & S.* no. 2904.

Hypena externa, *Moore, Lep. Atk.* p. 190; *C. & S.* no. 2877 (*nec Wlk.*).

Hypena tatorhina, *Butl. Ill. Het.* iii, p. 59, pl. 55, fig. 13; *C. & S.* no. 2916.

Greyish red-brown; the palpi somewhat shorter than in *longipennis*. Fore wing with numerous indistinct dark striæ and specks; the raised tufts slight, the one in the cell surrounding a

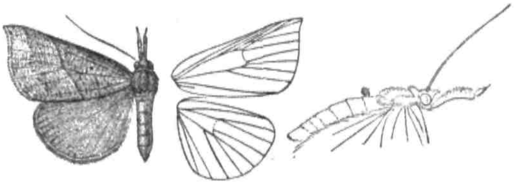

Fig. 42.—*Hypena proboscidalis*, ♂. 1/1.

white speck; an indistinct ferruginous antemedial line; a prominent postmedial oblique line; an indistinct sinuous submarginal dark line. Hind wing fuscous. Underside of fore wing with white subapical speck; hind wing pale, with dark striæ.

The form *ochreipennis* has a yellowish tinge, and the fore wing is more prominently striated.

Hab. Europe; Japan; Kúlú; Sikhim; Khásis. *Exp.* 40 millim.

2920. **Hypena tenuipalpis**, *Hmpsn. Ill. Het.* viii, p. 93, pl. 147, fig. 11.

Very pale brown. Fore wing irrorated with black scales; a black speck at base; a dark spot on discocellulars; traces of a sub-

marginal series of specks and a marginal series. Hind wing pale fuscous.

Hab. Nilgiris. *Exp.* 30 millim.

2921. **Hypena acutalis**, n. sp.

♂. Fore wing with the outer margin slightly excised below apex and excurved at middle. Reddish fuscous; the fore wing with a purplish gloss and irrorated with black; a black speck in cell and spot at end of it, each with a dark striga from the costa above it; a marginal series of black specks.

Hab. Nágas (*Doherty*). *Exp.* 34 millim. Type in coll. Elwes.

2922. **Hypena duplicilinea**, n. sp.

♀. Head and thorax chestnut; abdomen brown. Fore wing chestnut, irrorated with purplish white; an oblique antemedial darker line excurved below the cell; a double oblique medial line slightly angled at middle; traces of a postmedial sinuous line, with a fuscous and grey maculate line beyond it. Hind wing pale brown. Underside of fore wing with subapical white speck.

Hab. Sikhim (*Lidderdale*). *Exp.* 30 millim. Type in coll. Druce.

2923. **Hypena strigosa**, *Hmpsn. Ill. Het.* viii, p. 94, pl. 147, fig. 14.
Hypena laxia, *Swinh. Trans. Ent. Soc.* 1891, p. 483.

Palpi as in *proboscidalis*. Dark red-brown; abdomen dark fuscous, with the tuft on 2nd segment red-brown and very large. Fore wing irrorated with dark specks, and sometimes with a greenish tinge; an antemedial outwardly-oblique pale line from the costa to median nervure; an indistinct pale streak in end of cell; a rufous line with grey outer edge from the costa before apex to middle of inner margin; a submarginal series of dark specks; a curved apical whitish streak. Hind wing dark fuscous. Underside of fore wing with the costal area pale, with dark specks and subapical black and white spot; hind wing pale, irrorated with dark specks.

Hab. Sikhim; Khásis; Nilgiris. *Exp.* 34–38 millim.

2924. **Hypena daria**, *Swinh. Trans. Ent. Soc.* 1891, p. 482, pl. 19, fig. 14.

Differs from *strigosa* in the postmedial line of fore wing being incurved, and with a black mark on it above inner margin; the apical pale streak with an indentation on its outer edge.

Hab. Khásis. *Exp.* 40 millim.

2925. **Hypena strigifascia**, *Moore, Lep. Atk.* p. 191; *C. & S.* no. 2914.

Differs from *strigosa* in the ground-colour being dark red-brown,

slightly irrorated with purple. Fore wing with the antemedial line dentate and angled above vein 1; the postmedial line slightly irregular and less oblique; the apical pale mark in the form of a small patch.

Hab. Sikhim. *Exp.* 38 millim.

2926. **Hypena labatalis**, *Wlk. Cat.* xvi, p. 66; *Moore, Lep. Ceyl.* iii, pl. 176, fig. 6; *C. & S.* no. 2887.

Palpi very long; colour pale or dark greyish red-brown. Fore wing with a dark speck in cell and another at end of it; a very indistinct postmedial line highly angled beyond the cell, where it is met by the long curved apical white streak, which has two dark spots in its bend. Underside of fore wing with the costa pale, speckled with fuscous, and with a subapical black and white spot; hind wing pale, with dark specks and cell-spot.

Hab. Sikhim; Khásis; Nilgiris; Ceylon. *Exp.* 28 millim.

2927. **Hypena lignealis**, *Wlk. Cat.* xxxiv, p. 1138; *Hmpsn. Ill. Het* ix, pl. 166, fig. 5; *C. & S.* no. 2892.

Head and thorax red-brown; abdomen fuscous. Fore wing red-brown, the inner area suffused with blue-grey, which is narrowest at middle; some black spots in and below cell; an indistinct highly-angled postmedial line, with a black spot on it below cell; the curved apical streak very long and prominent, with two black spots above it; an indistinct submarginal series of black specks. Hind wing fuscous. Underside of fore wing with black and white subapical speck.

Hab. Ceylon. *Exp.* 32 millim.

2928. **Hypena rhynchalis**, *Snell. Tijd. v. Ent.* xxiii, p. 117.

♂. Head, thorax, and fore wing dark fuscous, the last with traces of antemedial, postmedial, and submarginal rufous lines; the tufts in and at end of cell dark; abdomen and hind wing paler fuscous.

Hab. Khásis; Celebes; Australia. *Exp.* 26 millim.

2929. **Hypena masurialis**, *Guen Delt. et Pyr.* p. 38; *C. & S.* no. 2895
Hypena obliqualis, *Koll. Hügel's Kaschmir*, iv, p. 491 (*nec Fabr.*).
Hypena obacerralis, *Wlk. Cat.* xvi, p. 53; *Moore, Lep. Ceyl.* iii, pl. 175, fig. 5; *C. & S.* no. 2929.
Hypena cærulealis, *Wlk. Cat.* xxxiv, p. 1142.
Hypena ferriscitalis, *Wlk. Cat.* xxxiv, p. 1142.
Hypena invenustalis, *Swinh. Trans. Ent. Soc.* 1890, p. 260.
Rhynchina eremialis, *Swinh. P. Z. S.* 1889, p. 417.

Pale or dark greyish red-brown. Fore wing slightly irrorated with dark scales; traces of an antemedial waved line; a dark speck in the cell; an oblique, slightly sinuous, ferruginous line from the costa before apex to middle of inner margin; traces of

an oblique dark line from the apex, often with a more or less complete series of dark specks on it. Abdomen and hind wing fuscous.

The form *ferriscitalis* from Australia is dark, whilst *eremialis* from Sind is much paler, with the markings of the fore wing almost obsolete. The variety *cærulealis* from Sikhim, Nágas, and Australia has the costal area of fore wing whitish.

Hab. E. Africa; Kashmir; W. and S. India; Ceylon; Burma; Australia. *Exp.* 24–30 millim.

2930. **Hypena mistacalis,** *Guen. Delt. et Pyr.* p. 60; *Moore, Lep. Ceyl.* iii, pl. 175, fig. 6; *C. & S.* no. 2928.
Hypena pactalis, *Wlk. Cat.* xvi, p. 64.

Differs from *masurialis* in being pale ochreous brown. Fore wing with the indistinct antemedial line oblique; the postmedial indistinct; a prominent oblique white line from apex to inner margin beyond the middle, with a diffused dark inner edge.

Hab. Calcutta; Nilgiris; Ceylon; Mergui. *Exp.* 24–26 millim.

2931. **Hypena castaneipalpis,** *Swinh. MS.*

♂. Palpi chestnut; head, thorax, and fore wing violaceous grey, with darker irroration; the last with postmedial line highly angled at vein 6; a submarginal series of black specks; the outer area bright chestnut, except at apex; abdomen and hind wing dark fuscous. Underside pale.

Hab. Khásis. *Exp.* 26 millim.

2932. **Hypena lividalis,** *Hübn. Samml. Eur. Schmett., Pyr.* figs. 11, 186.
Hypena abjuralis, *Wlk. Cat.* xvi, p. 68.
Hypena scissalis, *Wlk. Cat.* xxxiv, p. 1133.
Hypena perna, *Feld. Reis. Nov.* pl. 120, fig. 8.

Differs from *masurialis* in the head, thorax, and basal area of fore wing being bright ferruginous; the oblique line straight, with diffused white merging into fuscous beyond it.

Hab. S. Europe; Africa; Aden; throughout India and Burma. *Exp.* 24 millim.

2933. **Hypena conscitalis,** *Wlk. Cat.* xxxiv, p. 1509; *C. & S.* no. 2927.

Differs from *lividalis* in the fore wing having a grey fascia on costal area; a black speck at end of cell; the oblique line further from the base, slightly curved, and with the grey line beyond it more prominent and curved.

Hab. Ceylon; Java; S.E. Australia. *Exp.* 25 millim.

2934. **Hypena mimicalis,** *Swinh. P. Z. S.* 1885, p. 471, pl. 28, fig. 6; *C. & S.* no. 2897.

Perfectly uniform ochreous brown.

Hab. Bombay; Poona; Cutch. *Exp.* 30 millim.

2935. **Hypena iconicalis**, *Wlk. Cat.* xvi, p. 61; *Moore, Lep. Ceyl.* iii, pl. 175, fig. 9; *C. & S.* no. 2881.
Hypena sulalis, *Wlk. Cat.* xxxiv, p. 1140.
Hypena subnotalis, *Wlk. Cat.* xxxiv, p. 1140.
Hypena similata, *Moore, Lep. Atk.* p. 192; *C. & S.* no. 2911.

Reddish grey-brown; the palpi black. Fore wing slightly irrorated with dark specks; an indistinct sinuous antemedial line; a black speck in cell; a medial straight, almost erect, dark line with some bluish grey on the outer edge, and often with the area beyond it grey; a more or less developed sinuous submarginal series of black and white specks. Hind wing fuscous. Underside with subapical black and white speck to fore wing, and indistinct cell-spot and postmedial line to hind wing.

The males have the palpi shorter, more broadly scaled, and the frontal tuft very thick; specimens from E. Pegu have the costa of fore wing whitish.

Hab. Assam; throughout Peninsular India, Ceylon, and Burma; Java; Sula; Mysol. *Exp.* 30–32 millim.

2936. **Hypena rectivittalis**, *Moore, P. Z. S.* 1867, p. 84; *C. & S.* no. 2909.
Hypena beatalis, *Feld. Reis. Nov.* pl. 120, fig. 19.
Hypena minna, *Butl. Ill. Het.* iii, p. 59, pl. 55, fig. 12.
Hypena vecordialis, *Swinh. P. Z. S.* 1885, p. 472, pl. 28, fig. 10; *C. & S.* no. 2922.
Hypena speculalis, *Swinh. P. Z. S.* 1885, p. 472, pl. 28, fig. 8; *C. & S.* no. 2912.

Head, thorax, and fore wing pale ochreous brown, irrorated and striated with dark brown; palpi black and grey. Fore wing with dark speck in cell; a straight oblique postmedial brown band with black edges; an indistinct submarginal series of dark specks. Abdomen and hind wing pale fuscous.

The form *speculalis* has an oblique single line to fore wing instead of the band with a black spot beyond it on inner margin; some specimens have the sinuous submarginal series of specks prominent.

Hab. Africa; Japan; N.W. Himalayas; Punjab; Bombay; Nilgiris. *Exp.* 30 millim.

Sect. II. (*Bomolocha*). Palpi very much shorter and stouter; the 2nd joint porrect and clothed with long hair; the 3rd upturned and hairy for two thirds its length, the apex naked.

A. *Fore wing long and narrow, with the raised specks prominent.*

2937. **Hypena narratalis**, *Wlk. Cat.* xvi, p. 57; *C. & S.* no. 2900.
Hypena urticola, *Butl. Ill. Het.* vii, p. 86, pl. 134, fig. 2.

Differs from *proboscidalis* (p. 77) in being fuscous brown without the red tinge. Fore wing with the striæ and raised specks more

prominent; the white speck and rufous ante- and postmedial lines absent. Hind wing and underside darker.

The form *urticola* is pale, with large dark patches on middle of costa of fore wing and below apex.

Hab. N.W. Himalayas. *Exp.* 44 millim.

2938. **Hypena divaricata**, *Moore, Lep. Atk.* p. 189; *C. & S.* no. 2873.

♂. Red-brown, irrorated with black. Fore wing with indistinct antemedial line, highly angled at median nervure and almost joined at inner margin by a very oblique line from the costa before apex; the specks in and at end of cell black; a pale apical streak and traces of a submarginal line. Abdomen and hind wing fuscous brown.

Hab. Sikhim. *Exp.* 36 millim.

B. *Fore wing short and broad, with the raised specks absent or one minute one in cell; abdominal tufts usually well developed.*

2939. **Hypena albisigna**, *Moore, Lep. Atk.* p. 188; *C. & S.* no. 2856.

Dark brown. Fore wing with a somewhat indistinct waved antemedial line; a white L-mark in the cell; an erect, slightly sinuous dark postmedial line; a submarginal sinuous series of indistinct dark specks; a marginal dark line. Hind wing fuscous, with a marginal dark line; the cilia darkest at middle; underside of fore wing with postmedial line and subapical black and white speck; hind wing with cell-spot and postmedial and submarginal lines.

Hab. Khásis. *Exp.* 32 millim.

2940. **Hypena umbripennis**, *Moore, Lep. Atk.* p. 192; *Waterh. Aid,* ii. pl. 173, fig. 5.

Differs from *albisigna* in being without the white L-mark on fore wing; the postmedial line may be almost straight and has a pale outer edge, varying in being slightly inwardly to slightly outwardly oblique; three white specks may be present on costa towards apex. Underside with the subapical speck and markings of hind wing indistinct.

The colour may be fuscous or dark reddish brown.

Hab. Khásis. *Exp.* 32 millim.

2941. **Hypena tenebralis**, *Moore, P. Z. S.* 1867, p. 83; *C. & S.* no. 2917.

Very dark red-brown. Fore wing slightly irrorated with grey; faint traces of antemedial and postmedial lines, the latter incurved below the cell and nearly meeting the antemedial line at inner margin; a dark streak on discocellulars; a submarginal series of black and white specks from the costa to vein 4, from which there is an indistinct curved line to inner margin; an obscure apical

grey streak. Underside of fore wing with subapical black and white speck; hind wing with cell-spot and postmedial line.

Some specimens have the area beyond the postmedial line of fore wing paler.

Hab. Sikhim; Khásis. *Exp.* 42 millim.

2942. **Hypena dentilineata,** *Moore, Lep. Atk.* p. 187, pl. 6, fig. 24; *C. & S.* no. 2854.

Grey-brown, irrorated with fuscous. Fore wing with ante- and postmedial waved erect lines, the latter slightly bent out round cell and with the area beyond it rather paler; indistinct dark spots in and at end of cell; a submarginal series of white lunules; some subapical black streaks. Hind wing paler; both wings with marginal series of dark lunules.

Hab. Sikhim. *Exp.* 38 millim.

2943. **Hypena rhombalis,** *Guen. Delt. et Pyr.* p. 33; *C. & S.* no. 2910.
Hypena telamonalis, *Wlk. Cat.* xvi, p. 231.
Hypena basistrigalis, *Moore, P. Z. S.* 1867, p. 84; *C. & S.* no. 2863.
Hypena veronica, *Butl. Ill. Het.* vii, p. 85, pl. 133, fig. 17.

♂. Very dark red-brown. Fore wing with a large fuscous semicircular patch on the costa before apex, irrorated with a few bluish-white scales; an oblique line from outer margin below apex to inner margin beyond middle, the area beyond it fuscous, irrorated with bluish-white scales; a fuscous fascia on inner margin. Abdomen and hind wing dark fuscous. Underside of hind wing with cell-spot and indistinct postmedial line.

♀. Redder; fore wing with the costal patch and inner and outer marginal areas ochreous.

Hab. Sikhim; Khásis; Borneo. *Exp.* 36 millim.

2944. **Hypena obductalis,** *Wlk. Cat.* xvi, p. 56; *C. & S.* no. 2901.
Hypena flexuosa, *Moore, Lep. Atk.* p. 190; *C. & S.* no. 2878.

Dark fuscous brown. Fore wing with an antemedial whitish line angled at median nervure, then bent outwards and joining a postmedial line angled at vein 5 and in interno-median interspace, the area beyond it and the inner area slightly paler or suffused with white; a dark speck at middle and another at end of cell; a submarginal series of dark specks; a dark blotch often present below the obscure apical streak. Hind wing fuscous brown; underside with indistinct cell-spot and postmedial line.

The area between the ante- and postmedial lines may be rich dark brown. In *flexuosa* the colour of the fore wing is almost uniform.

Hab. Simla; Dharmsála; Sikhim; Khásis. *Exp.* 40 millim.

2945. **Hypena eductalis,** n. sp.

♂. Differs from *obductalis* in the inner basal area of fore wing being dark; the postmedial line very oblique below costa, with a

large rounded sinus beyond the cell meeting the dark patch below the apical streak.

Hab. Sikhim (*Gammie*). *Exp.* 36 millim. Type in coll. Elwes.

2946. **Hypena colombana,** *Moore, Lep. Ceyl.* iii, p. 223, pl. 176, fig. 8; *C. & S.* no. 2869.

Hypena biangulata, *Moore, Lep. Ceyl.* iii, p. 223, pl. 176, fig. 9; *C. & S.* no. 2864.

♂. Head and thorax dark purplish brown. Fore wing dark purplish grey; a highly angled antemedial line irregular between the costa and angle; a postmedial line with an angle beyond cell and another on vein 2; a curved apical streak, with two black spots above it and some dark suffusion below it. Hind wing dark fuscous. Underside with black and white subapical speck.

♀. Paler and redder, with the postmedial line nearly straight.

Hab. Ceylon; Andamans. *Exp.* 38 millim.

2947. **Hypena vestita,** *Moore, Lep. Ceyl.* iii. p. 221, pl. 176, fig. 10; *C. & S.* no. 2923.

Differs from *obductalis* in being rufous. Fore wing with the patch between the ante- and postmedial lines rich chocolate; the postmedial line produced to a quadrate sinus between veins 3 and 4; the dark blotch below the apical streak chocolate; no whitish suffusion. Hind wing reddish fuscous.

Hab. Ceylon. *Exp.* 36 millim.

2948. **Hypena cyanea,** *Hmpsn. Ill. Het.* ix, p. 121, pl. 166, fig. 20.

Differs from *vestita* in being darker red-brown. Fore wing with the ante- and postmedial lines rufous edged with bluish white; the outer area largely suffused with bluish white. Hind wing dark fuscous.

Hab. Ceylon. *Exp.* 36 millim.

2949. **Hypena lacessalis,** *Wlk. Cat.* xvi, p. 59; *C. & S.* no. 2889.

Dark rich red-brown. Fore wing slightly irrorated with bluish-white scales; an antemedial bluish-white line with three angles in it; a postmedial line angled outwards at vein 5; an indistinct submarginal dark line, with a series of bluish lunulate spots beyond it and marginal series of specks. Hind wing dark fuscous. Underside of fore wing with subapical white speck; hind wing with cell-spot and postmedial line.

Hab. Sikhim; Khásis. *Exp.* 44 millim.

2950. **Hypena lativitta,** *Moore, Lep. Atk.* p. 190; *C. & S.* no. 2891.

Dark red-brown. Fore wing with antemedial bluish-white line with three angles in it; a medial sinuous line, the area beyond it greyish brown with an indistinct dentate submarginal line, and apical streak with dark brown on its lower side. Hind wing dark

fuscous. Underside with subapical white speck to fore wing; hind wing with cell-spot and postmedial line.
Hab. Sikhim. *Exp.* 38 millim.

2951. **Hypena ophiusoides**, *Moore, Lep. Atk.* p. 189; *Waterh. Aid*, ii, pl. 173, fig. 6; *C. & S.* no. 2905.

Differs from *lativitta* in the fore wing having the antemedial line obsolete; white specks on costa towards apex; no dark mark below the apical streak, which is very obscure; the submarginal line sinuous and very indistinct; a series of minute marginal pale specks.

Some specimens have the basal area of fore wing not darker than the outer area, or the dark colour may be reduced to spots in the sinuations of the medial line; dark streaks in the interspaces are often present between the medial and submarginal lines.
Hab. Khásis. *Exp.* 30 millim.

2952. **Hypena divisalis**, *Moore, P. Z. S.* 1867, p. 84; *C. & S.* no. 2874.

♀. Head and thorax rufous brown. Fore wing dark rufous brown as far as the postmedial line; the outer area grey-brown; an indistinct curved antemedial line, with a ferruginous patch beyond it on inner margin; the postmedial line slightly angled at vein 4, then inwardly oblique. Abdomen and hind wing pale or dark fuscous. Underside with the subapical speck of fore wing and cell-spot and postmedial line of hind wing indistinct.

Some specimens are much darker than others.
Hab. Sikhim. *Exp.* 30–34 millim.

2953. **Hypena castanealis**, *Moore, P. Z. S.* 1867, p. 84; *C. & S.* no. 2865.

♂. Differs from *divisalis* in being brighter in colour. Fore wing with the antemedial line waved and sharply angled inwards below median nervure; an indistinct dark line inside the postmedial line and two beyond it. Hind wing with the costal and outer areas paler. Underside with the costa of fore wing, and the hind wing, pale with a reddish tinge.

♀ with the head, thorax, and fore wing more ferruginous in tone.
Hab. Sikhim. *Exp.* 36 millim.

2954. **Hypena griseapex**, *Hmpsn. Ill. Het.* viii, p. 94, pl. 147, fig. 7.
Hypena albifusa, *Hmpsn. Ill. Het.* viii, p. 97, pl. 148, fig. 9.

Head and thorax greyish brown; abdomen fuscous. Fore wing with an indistinct oblique antemedial line; the basal area dark as far as the straight, nearly erect medial line, beyond which the area is grey, shading into red-brown towards margin; a broad diffused grey curved apical streak. Hind wing dark fuscous. Underside

of fore wing with some grey apical suffusion; hind wing with slight mark on discocellulars.

Hab. Nilgiris; Ceylon. *Exp.* 38 millim.

2955. **Hypena griseivitta,** *Hmpsn. Ill. Het.* viii, p. 96, pl. 148, fig. 8.

Differs from *griseapex* in the medial line of fore wing being erect and minutely waved.

Hab. Simla; Nilgiris. *Exp.* 36 millim.

2956. **Hypena abyssinialis,** *Guen. Delt. et Pyr.* p. 39.

Hypena jussalis, *Wlk. Cat.* xvi, p. 52.

Hypena laceratalis, *Wlk. Cat.* xvi, p. 60; *Moore, Lep. Ceyl.* iii, pl. 176, figs. 5, 5 *a*; *C. & S.* no. 2888.

Hypena ignotalis, *Wlk. Cat.* xvi, p. 60; *C. & S.* no. 2882.

Hypena dispunctalis, *Wlk. Cat.* xxxiv, p. 1144.

Hypena squamea, *Hmpsn. Ill. Het.* viii, p. 94, pl. 147, fig. 22.

Fore wing somewhat narrower, the outer margin more obliquely rounded. Grey-brown. Fore wing with antemedial oblique ferruginous line; dark specks at centre and end of cell; a sinuous erect ferruginous postmedial line; a prominent curved apical streak with two black specks on its upper edge; three white specks on the costa towards apex. Abdomen and hind wing dark fuscous.

The colour of the fore wing may be almost uniform with dark striæ and the markings indistinct; or the basal, inner, and lower half of outer areas may be violaceous grey or slightly suffused with that colour, and with a patch of it on the costa beyond the postmedial line.

Hab. Aden; throughout Africa, India, Ceylon, and Burma; Australia. *Exp.* 32 millim.

2957. **Hypena extensa,** *Wlk. Cat.* xxxiv, p. 1139; *C. & S.* no. 2876.

Differs from *abyssinialis* in the head, thorax, and fore wing being bright red-brown; the apical streak pale rufous.

Hab. Sikhim; Ceylon. *Exp.* 30 millim.

2958. **Hypena varialis,** *Wlk. Cat.* xxxiv, p. 1136; *Hmpsn. Ill. Het.* ix, pl. 166, fig. 13.

Differs from *abyssinialis* in the ground-colour being redder brown. Fore wing with a prominent ochreous streak from the base below median nervure and pale speck at end of cell; the waved postmedial line inwardly oblique.

Hab. Natal; Madagascar; Nilgiris; Ceylon. *Exp.* 30 millim.

2959. **Hypena nilgirica,** *Hmpsn. Ill. Het.* viii, p. 95, pl. 148, fig. 1.

Differs from *abyssinialis* in the fore wing being broader and with a waved submarginal line. Underside with the costa of fore wing and the whole hind wing ochreous white irrorated with brown; a prominent subapical speck.

Hab. Nilgiris. *Exp.* 34 millim.

2960. **Hypena molpusalis**, *Wlk. Cat.* xix, p. 844; *C. & S.* no. 2899; *Hmpsn. Ill. Het.* ix, pl. 166, fig. 12.
Hypena subapicalis, *Wlk. Cat.* xxxiv, p. 1137.
Hypena sparsalis, *Wlk. Cat.* xxxiv, p. 1511.

Differs from *abyssinialis* in the postmedial line of fore wing being more oblique at costa; the apical curved streak absent; an indistinct submarginal crenulate pale line, with two dark dashes on it below apex and one above outer angle.

Hab. Calcutta; Bombay; Nilgiris; Ceylon. *Exp.* 28 millim.

2961. **Hypena modesta**, *Moore, Lep. Atk.* p. 191; *C. & S.* no. 2898.

Head and thorax grey-brown; abdomen fuscous. Fore wing grey-brown, with a reddish tinge as far as the postmedial line which is straight, oblique, and rufous with pale outer edge; traces of a waved antemedial line; a diffused waved submarginal band arising from an obscure grey apical curved streak, with a black speck on its upperside; white specks on costa towards apex sometimes present. Hind wing and underside pale fuscous.

Hab. Sikhim; Khásis; Nilgiris; Andamans. *Exp.* 30–36 millim.

2962. **Hypena olivacea**, *Hmpsn. Ill. Het.* viii, p. 97, pl. 148, fig. 19.

Differs from *modesta* in being darker; the fore wing olive-brown suffused with grey; the lines more distinct; a faint waved line beyond the postmedial line; the submarginal line slightly angled at middle; no apical streak or black speck. Underside of fore wing with subapical white speck; hind wing with cell-spot and postmedial line.

Hab. Nilgiris. *Exp.* 36 millim.

2963. **Hypena uniformis**, *Hmpsn. Ill. Het.* viii, p. 96, pl. 148, fig. 7.

Greyish fuscous, sometimes with slight purplish or rufous tinge. Fore wing with indistinct obliquely-waved antemedial line and speck in cell; an almost erect and straight postmedial line with pale outer edge; traces of a waved submarginal line with dark specks on it. Hind wing dark fuscous. Underside in some specimens with subapical white speck.

The Khási form is prominently irrorated with grey; the postmedial pale-edged line prominent, sometimes with two black spots on its inner edge. Some Nilgiri specimens have an indistinct apical streak to fore wing.

Hab. China; Dalhousie; Khásis; Nilgiris. *Exp.* 36 millim.

2964. **Hypena obstupidalis**, *Swinh. P. Z. S.* 1885, p. 471, pl. 28, fig. 7; *C. & S.* no. 2902.
Hypena tristis, *Hmpsn. Ill. Het.* viii, p. 96, pl. 148, fig. 14.

Differs from *olivacea* in being paler and more fuscous; fore wing with the postmedial line more erect and slightly excurved round the cell.

In the form *tristis* the markings of the fore wing are dark and obscure; the ground-colour darker.

Hab. Khandála; Bombay; Nilgiris. *Exp.* 30–36 millim.

2965. **Hypena obfuscalis,** *Hmpsn. Ill. Het.* ix, p. 120, pl. 166, figs. 18, 19.

Differs from *obstupidalis* in being dark reddish brown. Fore wing with the antemedial line rufous and more distinct; the postmedial line not curved but very slightly sinuous and outwardly oblique; the submarginal line more dentate. Underside without postmedial line to hind wing.

One specimen has diffused white beyond the postmedial line.

Hab. Ceylon. *Exp.* 32 millim.

2966. **Hypena mediana,** *Moore, Lep. Atk.* p. 189; *C. & S.* no. 2896.

Dark fuscous. Fore wing with the basal half blackish as far as the medial line, which is erect and angled outwards above vein 1 and beyond cell; a very indistinct sinuous submarginal series of grey specks; an oblique dentate apical streak; the outer area slightly darker than the postmedial.

Hab. Sikhim; Parisnáth Hill, Bengal. *Exp.* 30 millim.

2967. **Hypena mandatalis,** *Wlk. Cat.* xvi, p. 58; *Hmpsn. Ill. Het.* ix pl. 166, fig. 11; *C. & S.* no. 2894.

Differs from *obstupidalis* in being more rufous brown. Fore wing with the basal half sometimes very dark brown; the ante- and postmedial lines with some leaden scales on their edges, the latter angled beyond cell and on vein 2; a black dot below the upper angle; the marginal sinuous series of specks indistinct; a dark blotch below apex usually present. Underside uniform.

Hab. Bombay; Ceylon; Rangoon. *Exp.* 30 millim.

2968. **Hypena cognata,** *Moore, Lep. Ceyl.* iii, p. 224, pl. 175, fig. 8; *C. & S.* no. 2868.

Differs from *mandatalis* in the palpi being more slender; the postmedial line of the fore wing more oblique with the two angles slighter; a pale curved apical streak with two dark specks above it and dark suffusion below it.

Hab. Sibságar; Calcutta. *Exp.* 30 millim.

2969. **Hypena quæsitalis,** *Wlk. Cat.* xvi, p. 58; *Hmpsn. Ill. Het.* ix, pl. 166, fig. 4; *C. & S.* no. 2906.

Differs from *mandatalis* in being much more ferruginous. Fore wing with the antemedial line whiter, oblique, and ending below vein 2, where it nearly joins the postmedial line, which is straight and erect from the costa to vein 2, where it is incurved, its outer edge with diffused bluish white on it; some grey suffusion at apex, and two small subapical white dentate marks.

Hab. Ceylon. *Exp.* 30 millim.

2970. **Hypena nigrescens**, *Moore, P. Z. S.* 1881, p. 350; *C. & S.* no. 2126.
Hypena herbigrada, *Swinh. P. Z. S.* 1889, p. 416.

Reddish fuscous brown. Fore wing with traces of an antemedial curved line; a speck in cell and another at end of it; a postmedial waved line from costa before apex, incurved below end of cell and reaching middle of inner margin. Hind wing dark fuscous.

One specimen is very pale with the area between the ante- and postmedial lines of fore wing suffused with black; another has the fore wing pale as far as the antemedial line, and another has a black patch on the antemedial line below cell; others have ferruginous patches on the postmedial line, and traces of waved submarginal line and marginal series of specks.

Hab. Bombay; Mahableshwar. *Exp.* 28 millim.

2971. **Hypena indicatalis**, *Wlk. Cat.* xvi, p. 61.
Hypena læsalis, *Wlk. Cat.* xvi, p. 62; *Moore, Lep. Ceyl.* iii, pl. 175, fig. 10; *C. & S.* no. 2890.
Hypena semiclusalis, *Wlk. Cat.* xxxiv, p. 1511.
Hypena velatipennis, *Butl. A. M. N. H.* (4) xvi, 1875, p. 410.
Hypena tortuosa, *Moore, Lep. Atk.* p. 188; *C. & S.* no. 2918.
Hypena cidarioides, *Moore, Lep. Atk.* p. 189; *C. & S.* no. 2867.
Hypena persimilis, *Hmpsn. Ill. Het.* viii, p. 94, pl. 147, fig. 13.
Hypena argialis, *Snellen, Tijd. v. Ent.* xxiii, p. 118.

Differs from *cognata* in having the basal half of the fore wing dark purplish brown; a small white lunule at end of cell; the postmedial line incurved from the upper of its two angles to the inner margin; three sinuous lines on the outer area; a dark lower edge to the curved streak.

A form from the Khásis has the basal area of fore wing rufous; the outer area with dark striæ; one sinuous line, and the apical streak obscure.

Hab. Natal; Japan; throughout India, Ceylon, and Burma; Borneo; Java; Celebes. *Exp.* 30 millim.

2972. **Hypena assimilis**, *Hmpsn. Ill. Het.* viii, p. 93, pl. 147, fig. 6.

Differs from *indicatalis* in having the basal area of fore wing pale as far as the antemedial line which is oblique, thus leaving a dark triangular patch between the ante- and postmedial lines; a large patch of dark suffusion below the apical streak.

Hab. Nilgiris. *Exp.* 28 millim.

2973. **Hypena jocosalis**, *Wlk. Cat.* xvi, p. 57; *Hmpsn. Ill. Het.* ix, pl. 166, fig. 6; *C. & S.* no. 2886.

Differs from *assimilis* in the postmedial line of fore wing being bent inwards towards the base from vein 2 to inner margin, as also are the two indistinct lines beyond it.

Hab. Ceylon. *Exp.* 30 millim.

2974. **Hypena minor,** *Hmpsn. Ill. Het.* viii, p. 95, pl. 148, fig. 22.

Differs from *cognata* in being much more uniform dark fuscous brown. Fore wing with an indistinct oblique antemedial line; the postmedial line erect and minutely waved; the outer area dark. Hind wing dark fuscous.

Hab. Nilgiris. *Exp.* 26 millim.

2975. **Hypena griseipennis,** *Moore, Lep. Atk.* p. 190; *C. & S.* no. 2880.

Differs from *minor* in the fore wing being rufous brown as far as the postmedial line, which is bent inwards towards costa instead of erect.

Hab. Khásis; Nágas. *Exp.* 22 millim.

2976. **Hypena thermesialis,** *Wlk. Cat.* xxxiv, p. 1515; *Hmpsn. Ill. Het.* ix. pl. 166, fig. 14.
Hypena rectifascia, *Hmpsn. Ill. Het.* viii, p. 96, pl. 148, fig. 2.

Differs from *cognata* in the fore wing being suffused with purplish; the medial line quite straight and slightly oblique. Hind wing dark fuscous. Underside without subapical speck.

Some specimens are redder than others.

Hab. China; N.W. Himalayas; Bombay; Nilgiris; Ceylon; Java. *Exp.* 30 millim.

2977. **Hypena occata,** *Moore, Lep. Atk.* p. 191; *C. & S.* no. 2903.
Hypena crassipalpis, *Butl. Ill. Het.* vii, p. 85, pl. 133, fig. 16.

Differs from *indicatalis* in the fore wing being slightly suffused with bluish grey; the postmedial line with bright blue-grey suffusion beyond it; the apical streak bluish grey, with the black marks below it usually prominent.

Hab. Dharmsála; Sikhim; Khásis; Nilgiris; Ceylon. *Exp.* 28–32 millim.

2978. **Hypena biplagiata,** *Butl. Ill. Het.* vii, p. 86, pl. 134, fig. 1.
Athyrma aurotincta, *Hmpsn. Ill. Het.* ix, p. 105, pl. 163, fig. 10.

Head and thorax pale red-brown; abdomen fuscous. Fore wing pale red-brown, with a large deep cupreous chocolate patch from costa near base to apex, extending down to vein 1 and broken into two, of which the inner part has white edges, by a postmedial oblique waved band of the ground-colour; a marginal series of black specks. Hind wing and underside fuscous.

Hab. Dharmsála; Sikhim; Khásis; Rangoon; Calcutta; Ceylon. *Exp.* 36 millim.

C. *Fore wing with the outer margin excised below apex and excurved at middle.*

2979. **Hypena triangularis,** *Moore, Lep. Atk.* p. 191; *C. & S.* no. 2919.
Hypena absimilis, *Moore, Lep. Atk.* p. 191; *C. & S.* no. 2862.

Grey-brown. Fore wing with *indistinct obliquely-waved* antemedial line almost joined at inner margin by a similar inwardly-oblique postmedial line; the tufts in and at end of cell black; the apical streak indistinct, with a rufous patch above it and rufous lower edge; traces of a submarginal line and marginal series of specks.

Triangularis has a large dark triangular patch on costa of fore wing between the ante- and postmedial lines, whilst *absimilis* is uniformly irrorated with black.

Hab. Khásis. *Exp.* 32 millim.

D. *Fore wing with the outer margin slightly angled at middle.*

2980. **Hypena glaucescens**, n. sp.

♀. Reddish grey. Fore wing with indistinct erect antemedial line; a prominent straight erect rufous and pale postmedial line; a submarginal sinuous series of dark specks. Hind wing pale, slightly suffused with fuscous; an obscure oblique medial fuscous line angled near anal angle.

Hab. Sikhim (*Möller*). *Exp.* 34 millim. Type in coll. Elwes.

2981. **Hypena rufirena**, n. sp.

Head, thorax, and abdomen pale fuscous; palpi rufous and rather short and slender. Fore wing reddish ochreous irrorated with dark brown; traces of a waved antemedial line; a rufous speck in the cell; the reniform rufous with pale edge; a waved postmedial brown line with pale edge, very much excurved round end of cell; an irregularly waved pale submarginal line; a marginal series of specks. Hind wing pale fuscous, darker towards outer margin.

Hab. Sikhim (*Dudgeon*). *Exp.* 26 millim. Type in B. M.

E. *Fore wing with the outer angle strongly hooked.*

2982. **Hypena hamata**, n. sp.

♂. Head, thorax, and fore wing ferruginous brown: the last irrorated with pale blue scales; traces of an antemedial line joined at inner margin by an obliquely curved postmedial line; a dark speck in cell. Abdomen and hind wing fuscous.

Hab. Nágas (*Doherty*). *Exp.* 34 millim. Type in coll. Elwes.

2983. **Hypena uncipennis**, *Swinh. MS.*

♂. Head, thorax, and fore wings reddish brown, thickly irrorated with ferruginous; the last with a slight speck in cell; traces of an oblique medial line with dark patch beyond it on vein 2; two dark subapical specks and an oblique diffused fuscous submarginal band from apex to outer angle; abdomen and hind wing dark fuscous. Underside of fore wing with subapical black

and white speck; hind wing striated with fuscous and with a cell-speck.

Hab. Khásis. *Exp.* 34 millim.

SECT. III. (*Harita*). Palpi with the 3rd joint longer than the 2nd, obliquely porrect and thickly clothed with scales; antennæ of male serrate and fasciculate.

2984. **Hypena rectilinea,** *Moore, Lep. Atk.* p. 187, pl. 6, fig. 23; *C. & S.* no. 2855.

Hypena ferrealis, *Hmpsn. Ill. Het.* ix, p. 119, pl. 166, fig. 10.

Differs from *iconicalis* (p. 81) in having white specks on the costa of fore wing towards apex.

Hab. Khásis; Nilgiris; Ceylon. *Exp.* 32 millim.

SECT. IV. Palpi short and porrect, the 2nd joint thickened by being clothed with very long hair on upperside so as almost to hide the 3rd joint.

A. (Naarda). *Antennæ of male with long cilia.*

2985. **Hypena ineffectalis,** *Wlk. Cat.* xvi, p. 85; *Hmpsn. Ill. Het.* ix, pl. 166, fig. 25; *C. & S.* no. 2885.

Cerynea laufellalis, *Wlk. Cat.* xix, p. 878.
Naarda bisignata, *Wlk. Cat.* xxxv, p. 1695.
Hypena notata, *Hmpsn. Ill. Het.* viii, p. 97, pl. 148, fig. 23.

Fuscous black. Fore wing with traces of sinuous antemedial, medial, and postmedial dark lines; an ochreous spot in cell and band on discocellulars. Hind wing with traces of ante- and postmedial lines.

Hab. Bombay; Nilgiris; Travancore; Ceylon; Borneo; Sula. *Exp.* 16 millim.

2986. **Hypena glauculalis,** *Hmpsn. Ill. Het.* ix, p. 117, pl. 166, fig. 15.

♂. Differs from *ineffectalis* in the ochreous spot at end of cell of fore wing being small; the postmedial line farther from the cell. Hind wing without the ante- and postmedial lines.

Hab. Ceylon. *Exp.* 22 millim.

B. *Antennæ of male serrate on inner side, pectinate on outer.*

2987. **Hypena symethusalis,** *Wlk. Cat.* xvi, p. 234.

Differs from *ineffectalis* in its larger size and the antennæ of male.

Hab. Simla; Dharmsála; Sikhim; E. Pegu. *Exp.* 20 millim.

C. (Ptyophora). *Antennæ of male serrate and fasciculate; fore wing with a costal fold and an erectile tuft of long hair at base.*

2988. **Hypena ochreistigma**, *Hmpsn. Ill. Het.* ix, p. 124, pl. 167, fig. 25.

♂. Differs from *ineffectalis* in the structural characters only.
Hab. Ceylon. *Exp.* 18 millim.

Genus STENHYPENA, nov.

Type, *S. adustalis*, Hmpsn.
Range. Ceylon.

Differs from *Hypena* in the fore wing being narrow and of almost even width throughout, the outer margin nearly erect; the areole very small, vein 10 given off far beyond it; raised specks in and at end of cell. Hind wing with veins 3, 4 and 6, 7 stalked. Palpi with the 2nd joint of moderate length and fringed with hair above, the 3rd upturned and hairy, with the apex naked.

2989. **Stenhypena adustalis**, *Hmpsn. Ill. Het.* ix, p. 120, pl. 166, fig. 7.

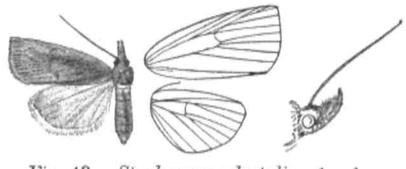

Fig. 43.—*Stenhypena adustalis*, ♂. 1/1.

Head, thorax, and fore wing ochreous brown, suffused and irrorated with fuscous, the last with a slight dark mark on discocellulars; traces of a curved and waved postmedial line; a submarginal sinuous series of white specks; a marginal series of black specks. Hind wing and abdomen pale fuscous.
Hab. Ceylon. *Exp.* 32 millim.

Genus BRITHA.

Britha, *Wlk. Cat.* xxxiv, p. 1146 (1865).
Hyposemeia, *Hmpsn. Ill. Het.* ix, p. 121 (1893).

Type, *B. biguttata*, Wlk.
Range. N. China; Ceylon; Java; Australia; New Britain.

Palpi long and obliquely porrect, the 2nd and 3rd joints fringed with very long hair above; antennæ bipectinate in male, with long spines from end of branches; abdomen with dorsal tufts on the first two segments. Fore wing of male with a large smooth patch occupying the inner area on underside, with a tuft of long hairs on vein 1. Hind wing with the costa much arched and a large smooth patch on upperside; veins 3, 4 and 6, 7 stalked; 5 from near lower angle of cell.

2990. **Britha biguttata**, *Wlk. Cat.* xxxiv, p. 1147.
Herminia incertalis, *Wlk. Cat.* xxxiv, p. 1518; *Hmpsn. Ill. Het.* ix, pl. 166, fig. 21.

Head and thorax clothed with grey and red-brown scales; abdomen fuscous. Fore wing clothed with grey and red-brown scales; an oblique antemedial rufous line angled below costa; a similar sinuous indistinct medial line; a prominent postmedial line

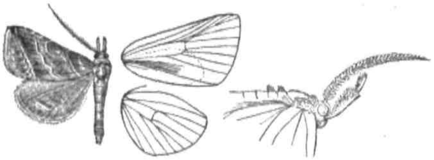

Fig. 44.—*Britha biguttata*, ♂. ½.

with pale outer edge; a straight oblique rufous and pale line from apex; the outer margin rufous; fine marginal and cilial pale lines. Hind wing fuscous, the medial outer area grey and brown, crossed by a short rufous and pale line; fine marginal and cilial lines.

Hab. N. China; Ceylon; Java; Australia; New Britain. *Exp.* 30 millim.

Genus **ORTHOZONA**, nov.

Type, *O. quadrilineata*, Moore.

Range. Sikhim; Nágas.

♀. Palpi with the 2nd joint porrect, of moderate length, and fringed with hair above, the 3rd upturned and naked; a short sharp frontal tuft; antennæ minutely ciliated; thorax and abdomen smoothly scaled; tibiæ not hairy. Fore wing with the apex nearly rectangular; vein 3 from before angle of cell. Hind wing with veins 4 and 5 from angle of cell; 3 from before the angle.

2991. **Orthozona quadrilineata**, *Moore, Lep. Atk.* p. 193; *C. & S.* no. 2968.

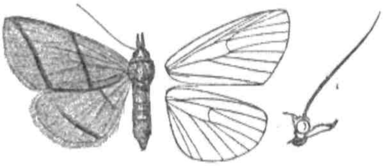

Fig. 45.—*Orthozona quadrilineata*, ♀. ½.

♀. Head, thorax, and abdomen fuscous brown. Fore wing pale reddish grey-brown, with indistinct waved ante- and postmedial rufous lines; a rufous speck in cell; an indistinct reniform stigma; prominent oblique medial and submarginal rufous lines. Hind wing pale fuscous, with indistinct antemedial line and prominent submarginal rufous line from below costa to near anal angle.

Hab. Sikhim; Nágas. *Exp.* 40 millim.

Genus CHUSARIS.

Chusaris, *Wlk. Cat.* xvi, p. 215 (1858).
Luceria, *Wlk. Cat.* xix, p. 853 (1859).

Type, *C. retalalis*, Wlk.

Range. W. Africa; Assam; Nilgiris; Ceylon; Andamans; Borneo.

Palpi long and porrect, the 2nd joint fringed with scales above; the 3rd slender and naked; thorax smooth; abdomen with a tuft on basal segment; legs slender and naked. Fore wing long and narrow; the apex depressed and acute; slight raised tufts at middle and end of cell. Fore wing with veins 6 and 7 from angle of cell; 8, 9, 10 stalked. Hind wing with veins 3 and 4 stalked, 5 from middle of discocellulars; 6 and 7 stalked.

SECT. I. Antennæ of male annulated and with fascicles of cilia.

2992. **Chusaris eurrhipoides**, *Hmpsn. Ill. Het.* viii, p. 98, pl. 148 fig. 16.

♂. Dark brown. Fore wing with a black speck at base; a pale waved antemedial line; a similar postmedial line very highly excurved round a black spot beyond end of cell and conjoined to an oblique white band from apex; a pale sinuous submarginal line; some white specks on costa towards apex and a marginal series of specks. Abdomen and hind wing fuscous.

Hab. Nilgiris. *Exp.* 18 millim.

SECT. II. (*Luceria*). Antennæ of male minutely ciliated.

A. *Palpi long.*

2993. **Chusaris novatusalis**, *Wlk. Cat.* xix, p. 854; *C. & S.* no. 2937.

Bright ochreous. Fore wing with a black speck at base; an indistinct highly angulated antemedial line; a black ring-spot at end of cell; an indistinct oblique line from costa before apex to

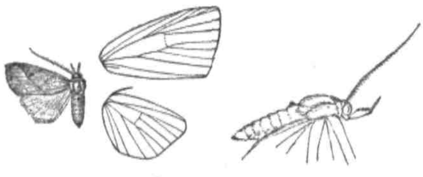

Fig. 46.—*Chusaris novatusalis*, ♂. 1/1.

middle of inner margin; traces of a sinuous submarginal line; a marginal series of black specks. Hind wing ochreous brown, with traces of an oblique medial line.

Hab. Ceylon. *Exp.* 22 millim.

2994. **Chusaris opiliusalis**, *Wlk. Cat.* xix, p. 854.
Rhynchina pallida, *Hmpsn. Ill. Het.* viii, p. 92, pl. 147, fig. 5.

♂. Differs from *novatusalis* in being ochreous white; the ring-spot more diffused; the oblique line double, with pale middle; the outer area suffused with brown.

Hab. Nilgiris; Borneo. *Exp.* 22 millim.

2995. **Chusaris minoralis**, *Wlk. Cat.* xxxiv, p. 1164; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 17; *C. & S.* no. 2931.

♀. Differs from *opiliusalis* in the indistinct antemedial line of fore wing being more erect; the dark spot being in the cell instead of beyond it; the postmedial line angled below the costa instead of oblique from near the apex; an oblique submarginal line from apex with a series of white specks on it. Hind wing with more distinct medial line; the outer area speckled with fuscous. Underside of both wings more variegated with red-brown.

Hab. Ceylon. *Exp.* 18 millim.

2996. **Chusaris omariusalis**, *Wlk. Cat.* xix, p. 871; *Moore, Lep. Ceyl.* iii, pl. 177, fig. 7; *C. & S.* no. 2932.

♀. Reddish ochreous. Fore wing with indistinct subbasal, pale oblique antemedial, sinuous postmedial, and waved submarginal lines; an indistinct reniform spot; a crenulate dark marginal line. Hind wing with pale sinuous ante- and postmedial and waved submarginal lines; a marginal series of black specks.

Hab. Ceylon. *Exp.* 18 millim.

B. *Palpi shorter.*

2997. **Chusaris renalis**, *Moore, Lep. Ceyl.* iii, p. 242, pl. 177, fig. 3; *C. & S.* no. 2933.

♂. Very pale reddish brown. Fore wing with traces of subbasal, antemedial, postmedial, and submarginal waved lines; an antemedial brown spot on costa; an elongate spot at end of cell, with speck on costa above it; a quadrate postmedial spot on costa; the apical portion of outer area chestnut; a marginal series of black specks. Hind wing pink, with marginal series of black specks and striga at anal angle.

Hab. Ceylon. *Exp.* 20 millim.

2998. **Chusaris ideoides**, *Hmpsn. Ill. Het.* viii, p. 93, pl. 147, fig. 12.

Pale ochreous; head and thorax slightly irrorated with red scales, the abdomen irrorated with black and with slight black segmental bands towards extremity. Fore wing irrorated with brown and fuscous scales; indistinct subbasal, antemedial, and postmedial waved lines, the last angled below costa, and each arising from a black speck on costa; an oblique reddish-brown marginal band, with a dark line inside it from vein 5 to inner margin; a marginal series

of black specks. Hind wing with an indistinct antemedial line; a dark speck at end of cell; a dark postmedial line, with diffused red-brown lines on each side of it; a marginal series of black specks.

Hab. Nilgiris; Ceylon. *Exp.* 18 millim.

SECT. III. Antennæ of male with long bristles and cilia.

2999. **Chusaris figurata,** *Moore, Lep. Ceyl.* iii, p. 239; *C. & S.* no. 3041.

Helia tessellata, *Hmpsn. Ill. Het.* ix, p. 136, pl. 168, fig. 18.

♂. Yellowish white; palpi and collar marked with black; abdomen irrorated with fuscous. Fore wing with a black patch on base of costa; an antemedial black band, expanding into blotches at costa and middle; a postmedial band expanding into a large blotch at end of cell, with a white lunule on the discocellulars, and some ochreous beyond it on inner margin; a fuscous mark and black spot on costa before apex; outer margin with a series of triangular black spots and some ochreous at middle and outer angle. Hind wing pale fuscous; the inner area pale; traces of medial and marginal lines.

Hab. Ceylon. *Exp.* 28 millim.

3000. **Chusaris paucimaculata,** *Hmpsn. Ill. Het.* ix, p. 136, pl. 168, fig. 16.

♂. Differs from *figurata* in being browner; a black spot at base of abdomen. Fore wing with the antemedial line reduced to a black spot on costa and to traces towards inner margin; a black speck in cell; the postmedial line reduced to a spot on the costa and two at end of cell, and to traces towards inner margin; a marginal series of black specks.

Hab. Ceylon. *Exp.* 30 millim.

SECT. IV. (*Chusaris*). Antennæ of male bipectinated.

3001. **Chusaris retatalis,** *Wlk. Cat.* xvi, p. 215; *Hmpsn. Ill. Het.* ix, pl. 167, fig. 5; *C. & S.* no. 2936.

Bleptina spurcatalis, *Wlk. Cat.* xxxiv, p. 1163.

Brownish grey. Fore wing with some brown on costa at base; ill-defined double brown antemedial and medial lines; a brown spot at end of cell and another on costa before apex; indistinct waved postmedial and submarginal lines, a marginal series of dark specks. Hind wing fuscous.

Hab. Ceylon. *Exp.* 20 millim.

SECT. V. Antennæ of male with long cilia; the palpi shorter.

3002. **Chusaris oculalis,** *Moore, P. Z. S.* 1877, p. 614; *C. & S.* no. 3027.

Differs from *opiliusalis* in the palpi being marked with black; the

ring-mark on fore wing better defined. Hind wing almost white, without trace of a line.

Hab. Accra, W. Africa; Assam; Andamans. *Exp.* 14 millim.

3003. **Chusaris puncticilia,** *Hmpsn. Ill. Het.* viii, p. 101, pl. 148, fig. 17.

Bright ochreous; abdomen fuscous, with ochreous anal tufts. Fore wing with black speck at base; a few dark scales representing the antemedial line; a black speck at end of cell; traces of an oblique postmedial band; a series of black marginal specks. Hind wing with indistinct cell-spot; the outer area suffused with fuscous.

Hab. Nilgiris. *Exp.* 16 millim.

Genus **HYPENODES.**

Hypenodes, *Guen. Delt. et Pyr.* p. 41 (1854).

Type, *H. albistrigalis*, Haw., from Europe.

Range. Europe; Ceylon; Hawaii.

Palpi with the 2nd joint long and fringed with long hair above; the 3rd short, naked, and oblique; the frontal tuft short; antennæ ringed and minutely ciliated in male; thorax smoothly scaled; abdomen with a basal dorsal tuft; tibiæ almost naked. Fore wing long and narrow; veins 6 and 7 from near end of cell; 8 and 10 stalked; 9 absent. Hind wing with veins 3, 4 and 6, 7 stalked; 5 from middle of discocellulars.

3004. **Hypenodes croceipicta,** *Hmpsn. Ill. Het.* ix, p. 121, pl. 166, fig. 23.

Head brownish ochreous; thorax purplish grey; abdomen pale. Fore wing dark purplish, irrorated with grey; an oblique orange striga from costa near base; a dentate orange antemedial line most prominent at middle, where it has a black streak and spot on its outer edge; a black streak at end of cell, with an orange striga from the costa above it; an oblique orange line from below apex to middle of inner margin, with some diffused grey beyond it; some white specks on costa towards apex; an indistinct submarginal white line; a marginal series of black specks. Hind wing whitish, with dark lunule at end of cell; the outer area slightly suffused with fuscous.

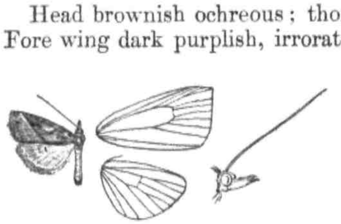

Fig. 47.—*Hypenodes croceipicta*, ♂. 1/1.

Hab. Ceylon. *Exp.* 20 millim.

Genus **ARRADE**.

Arrade, *Wlk. Cat.* xxvii, p. 82 (1863).
Lophocraspedon, *Hmpsn. Ill. Het.* ix, p. 135 (1893).

Type, *A. erebusalis*, Wlk.

Range. Egypt; Bombay; Ceylon.

Palpi obliquely porrect, of moderate length; the 2nd joint hairy; a sharp frontal tuft; antennæ minutely ciliated in male; thorax and abdomen smoothly scaled; the abdomen long; legs naked. Fore wing long and narrow; the apex acute; the outer margin nearly straight; a large tuft of scales on inner margin beyond middle; veins 6, 7 from angle of cell; 8, 9, 10 stalked from before the end, or 10 absent. Hind wing with veins 3, 4 stalked or from cell; 6, 7 stalked; 5 from middle of discocellulars.

3005. **Arrade erebusalis**, *Wlk. Cat.* xxvii, p. 82; *Hmpsn. Ill. Het.* ix, pl. 163, fig. 21 (*Gyrtona hylusalis*); *C. & S.* no. 4527.

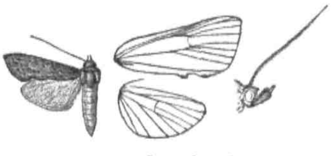

Fig. 48.—*Arrade erebusalis*, ♂. 1/1.

Reddish brown. Fore wing with oblique medial line; a postmedial line highly angled beyond cell; a sinuous submarginal line; the three lines with slight tufts of raised scales on them; a marginal dark line. Hind wing paler.

Hab. Ceylon. *Exp*. 22 millim.

3006. **Arrade massalis**, *Swinh. P. Z. S.* 1885, p. 866, pl. 57, fig. 10; *C. & S.* no. 4528.

♂. Differs from *erebusalis* in the fore wing being irrorated with black; an ochreous subbasal spot below cell; a curved antemedial line edged with white; the reniform small and ochreous with black outline; the postmedial line edged with white; a black submarginal spot and series of black marginal specks. Hind wing fuscous.

Hab. Bombay. *Exp*. 22 millim.

3007. **Arrade cristata**, *Hmpsn. Ill. Het.* ix, p. 135, pl. 168, fig. 4.

♂. Fulvous yellow; head roughly scaled; abdomen tinged with fuscous; fore tarsi extremely slender. Fore wing with indistinct waved subbasal and antemedial lines; a white speck at end of cell; a postmedial line highly excurved round cell; a submarginal dentate line with black patches beyond it at middle and outer angle; the tufts on inner margin black; some white specks on costa towards apex. Hind wing pale fuscous.

Hab. Ceylon. *Exp*. 18 millim.

Genus **HYPENAGONIA**.

Hypenagonia, *Hmpsn. Ill. Het.* ix, p. 122 (1893).

Type, *H. vexataria*, Wlk.

Range. Japan; Ceylon; Borneo.

Palpi of moderate length, the 2nd joint fringed with scales above, the 3rd minute; the frontal tuft short; antennæ annulate; thorax and abdomen smoothly scaled; tibiæ not hairy. Fore wing long and narrow; the outer margin angled at middle; veins 7, 8, 9 stalked. Hind wing with the outer margin highly angled at middle and excised towards anal angle; veins 3, 4 and 6, 7 stalked; 5 from near lower angle of cell.

3008. **Hypenagonia vexataria**, *Wlk. Cat.* xxiii, p. 767.
Hypenagonia nigrifascia, *Hmpsn. Ill. Het.* ix, p. 122, pl. 166, fig. 24.

Brownish ochreous; abdomen suffused dorsally with black at middle, and brownish towards extremity. Fore wing with some black specks on costa; traces of antemedial and medial reddish lines; a black speck at lower end of cell; a sinuous postmedial pale line angled below costa and excurved round cell; traces of a submarginal line; a subapical fuscous spot; a series of fuscous marginal specks. Hind wing with medial black band not reaching costa; some diffused fuscous on outer area; a marginal series of fuscous specks. Underside irrorated with black; fore wing with black spots in and at end of cell; hind wing with cell-spot; a broken fuscous medial band to both wings.

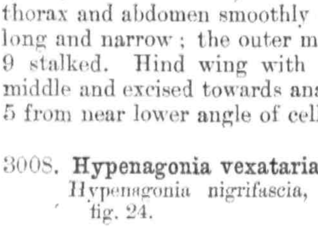

Fig. 49.
Hypenagonia vexataria, ♂. 1/1.

Hab. Ceylon; Borneo. *Exp*. 22 millim.

Genus **MOSCHA**.

Moscha, *Wlk. Cat.* xxxiv, p. 1199 (1865).
Hypertrocta, *Hmpsn. Ill. Het.* ix, p. 131 (1893).

Type, *M. posticalis*, Wlk.

Range. Japan; China; Ceylon; Burma.

Palpi short, the 2nd joint obliquely porrect and thickly clothed with scales, the 3rd short; antennæ ciliated in male; thorax and abdomen smoothly scaled. Fore wing long and narrow, the costa with slight tufts of scales and projections at the lines; the apex rounded; the outer margin angled at vein 4, then oblique to outer angle; vein 6 from below angle of cell; 7 from the angle; 8, 9, 10 stalked. Hind wing with the outer margin excised between anal angle and vein 4, and produced to points at veins 3 and 4; veins 3, 4 stalked; 5 from lower angle of cell.

3009. **Moscha posticalis**, *Wlk. Cat.* xxxiv, p. 1200; *C. & S.* no. 2749.
Hypertrocta marmorata, *Hmpsn. Ill. Het.* ix, p. 131, pl. 167, fig. 22.

♂. Grey-brown. Fore wing with five indistinct waved lines; a costal triangular patch between the medial and submarginal lines, defined below by dark streaks; a subapical triangular white mark with speck below it. Hind wing with indistinct ante- and postmedial lines; the inner area beyond the antemedial line suffused with chestnut; the postmedial line with white specks on it. Underside of both wings irrorated with black, and with black antemedial line.

Fig. 50.—*Moscha posticalis*, ♂. $\frac{3}{2}$.

Hab. Ceylon. *Exp.* 16 millim.

3010. **Moscha exigualis**, *Swinh. Trans. Ent. Soc.* 1890, p. 253, pl. 7, fig. 8.

♂. Differs from *posticalis* in being purplish red-brown. Fore wing with the postmedial line white and highly angled beyond the cell, the area between it and the antemedial line below the cell suffused with white; the dark streaks on the outer edge of the costal patch more prominent, with an ochreous line outside them and no white specks below them; the submarginal line with some white specks. Hind wing with the basal area suffused with white and the medial line white.

Hab. Rangoon. *Exp.* 16 millim.

Genus **GONIOCRASPEDUM**.

Goniocraspedon, *Hmpsn. Ill. Het.* ix, p. 125 (1893).

Type, *G. mistura*, Swinh.

Range. Sikhim; Poona; Ceylon.

Palpi short and obliquely porrect; the 2nd joint thickly fringed with hair; a short frontal tuft; antennæ with very long bristles and cilia in male, shorter in female; thorax and abdomen smoothly scaled; tibiæ nearly naked. Fore wing with the costa angled before middle; the apex acute; the outer margin angled at middle; veins 7, 8, 9, 10 stalked. Hind wing with veins 3, 4 stalked; 5 from above lower angle of cell.

3011. **Goniocraspedum mistura**, *Swinh. Trans. Ent. Soc.* 1891, p. 151; *Hmpsn. Ill. Het.* ix, pl. 168, fig. 20.

Grey-brown. Fore wing with indistinct waved antemedial, medial, postmedial, and submarginal lines; the ante- and postmedial lines with white marks on them at costa; a dark marginal

line. Hind wing whitish, suffused with brown; waved antemedial, medial, and postmedial lines; a marginal dark line.

Hab. Sikhim; Poona; Ceylon. *Exp.* 18 millim.

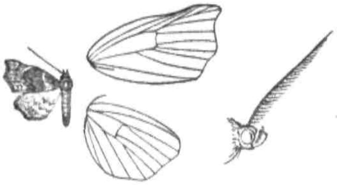

Fig. 51.—*Goniocraspedum mistura*, ♂. ½.

Genus MECISTOPTERA.

Mecistoptera, *Hmpsn. Ill. Het.* ix, p. 134 (1893).

Type, *M. griseifusa*, Hmpsn.

Range. Eastern Himalayas; Manipur; Poona; Ceylon.

Palpi long, obliquely porrect, the 2nd joint thickly clothed with scales, the 3rd long and slender; a short frontal tuft; antennæ with long cilia in male, short in female; thorax and abdomen smoothly scaled; tibiæ nearly naked. Fore wing long and narrow; the apex produced and acute; the outer margin oblique and excurved at middle; veins 8 and 9 anastomosing to form an areole. Hind wing with veins 3, 4 from cell; 5 from below the middle of discocellulars; the outer margin truncate from vein 4 to anal angle.

SECT. I. Fore wing with the outer margin angled at vein 4 and non-crenulate.

3012. **Mecistoptera griseifusa**, *Hmpsn. Ill. Het.* ix, p. 134, pl. 168, fig. 14.

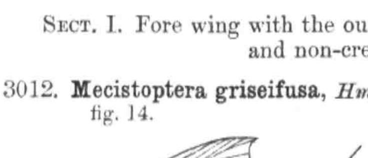

Fig. 52.—*Mecistoptera griseifusa*, ♀. ½.

Head, thorax, and abdomen fuscous brown. Fore wing with the basal half vinous brown, running out to an angle at lower end of cell and defined by a white line; a white lunule on discocellulars; the outer area purplish grey, irrorated with brown, and with brown patches below apex and above outer angle; the cilia brown. Hind wing dark fuscous.

Hab. Ceylon. *Exp.* 26 millim.

3013. **Mecistoptera duplicilinea**, n. sp.

♂. Reddish brown. Fore wing with an indistinct dark antemedial line; a white spot in cell and speck at end of it; a double oblique postmedial straight line filled in with purple and with

traces of a dentate line beyond it. Hind wing paler, with dark speck at end of cell; indistinct postmedial line and marginal dark line.

Hab. Manipur (*Doherty*). *Exp.* 26 millim. Type in coll. Elwes.

SECT. II. Fore wing with the outer margin angled at vein 3 and crenulate.

3014. **Mecistoptera velifera,** *Swinh. P. Z. S.* 1885, p. 473, pl. 28, fig. 17; *C. & S.* no. 2962.

♀. Head and collar ochreous; thorax and abdomen grey-brown. Fore wing ochreous brown suffused with fuscous, especially on inner area; a pale spot at end of cell; a lunulate marginal brown band with ochreous spot inside it above outer angle. Hind wing pale fuscous.

Hab. Bhután; Poona. *Exp.* 26 millim.

SECT. III. Fore wing with the outer margin slightly angled at middle.

3015. **Mecistoptera variegata,** n. sp.

♀. Head, thorax, and abdomen grey-brown. Fore wing brown, variegated with rufous, purple, and ochreous shades; a dark streak on median nervure; a white speck in cell and black speck at end of it; traces of an antemedial line with two angles in the cell; a postmedial line angled beyond the cell and with purplish suffusion beyond it; an indistinct submarginal sinuous maculate line; the veins beyond the cell dark-streaked; a marginal dark line. Hind wing pale with marginal dark line; underside with indistinct cell-spot and postmedial line.

Hab. Sikhim (*Knyvett*). *Exp.* 32 millim. Type in coll. Elwes.

Genus RHÆSENA.

Rhæsena, *Wlk. Cat.* xxxv, p. 1973 (1866).

Type, *R. transcissa*, Wlk.

Range. S. Africa; throughout India, Ceylon, and Burma; Borneo; Australia.

Palpi porrect, the 2nd joint thickly scaled, the 3rd of moderate length; antennæ with long bristles and fasciculated cilia in male; abdomen long, with dorsal tuft on 1st segment; the tibiæ slightly clothed with scales. Fore wing long and narrow; the costa arched towards apex, which is acute; the areole short, with vein 7 given off beyond it; males with a vesicle at upper angle of cell on underside covered by a valve of scales. Hind wing with vein 5 from below middle of discocellulars.

3016. **Rhæsena transcissa,** *Wlk. Cat.* xxxv, p. 1974.
Rhæsena obliquifasciata, *Moore, Lep. Atk.* p. 183; *C. & S.* no. 2728.

Head and collar fiery red; thorax purplish grey; abdomen

brown, red towards extremity. Fore wing fulvous, suffused with purplish; a waved antemedial line; an oblique medial line, the area beyond it paler; an irregularly sinuous submarginal line, sometimes almost straight, the medial outer area bright fulvous; some white specks on costa towards apex. Hindwing fuscous.

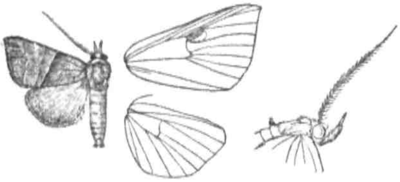

Fig. 53.—*Rhæsena transcissa*, ♂. ½.

Hab. Dharmsála; Bombay; Calcutta; Ceylon; Rangoon; Borneo; Australia. *Exp.* 28 millim.

Species formerly recorded as Indian which are omitted.

Acontia luctuosa, Schiff., C. & S. no. 1839, is from Europe and Yarkand.

Apamea selecta, Wlk., C. & S. no. 2060. Type lost; description not recognizable.

Anthophila zamia, Swinh., C. & S. no. 1889, is a Pyrale.

Anarta ladakensis, Feld., C. & S. no. 1964, is probably a Pyrale allied to *Pyrausta*.

Acontia costistigma, Wlk., C. & S. no. 1831. Type lost; description not recognizable.

Agrotis aquilina, Schiff., C. & S. no. 1980, is from Yarkand.

Agrotis tibetana, Moore, C. & S. no. 2002, is from Thibet.

Agrotis punctipes, Wlk., C. & S. no. 1997. Type lost; description not recognizable.

Agrotis congrua, Wlk., C. & S. no. 1985. Type lost; description not recognizable.

Acronycta kargalika, Moore, C. & S. no. 1770, is from Yarkand.

Anereuthina divisa, Wlk., C. & S. no. 2651. Type lost; description not recognizable.

Anthophila plana, Wlk., C. & S. no. 1888, is a Pyrale.

Bankia argentula, Hübn., C. & S. no. 1854, is not Indian.

Bertula contingens, Wlk., C. & S. no. 2978. Type lost; description not recognizable.

Bertula thyrisalis, Wlk. Cat. xvi, p. 167 (*nec* xix, p. 886), C. & S. no. 2983, is a Pyrale from Australia.

Bertula imparatalis, Wlk., C. & S. no. 2980. Type lost; description not recognizable.

Crambopsis excludens, Wlk., C. & S. no. 1720. Type lost; description not recognizable.

Catocala pudica, Moore, C. & S. no. 2281, is a small form of *C. prolifica*, Vol. II. p. 441.

Caradrina derogata, Wlk., C. & S. no. 2110. Type lost; description not recognizable.

Callopistria exotica, Guen., C. & S. no. 2219, is from Java.

Diphtera deceptura, Wlk., C. & S. no. 1759. Type lost; description not recognizable.

Discordia evulsa, Swinh., C. & S. no. 1719, is a Pyrale.

Eurois inclusa, Wlk., C. & S. no. 1927. Type lost; description not recognizable.

Eurois repugnans, Wlk., C. & S. no. 1929. Type lost; description not recognizable.

Eurois crassipennis, Wlk., C. & S. no. 1926, is a Pyrale of the genus *Locastra*.

Eutelia siccifolia, Moore, C. & S. no. 2206 = *Dysodia viridatrix*, Vol. I. p. 369.

Entomogramma postistrigaria, Wlk., C. & S. no. 2549. Type lost; description not recognizable.

Euclidia tarsalis, Wlk., C. & S. no. 2689. Type lost; description not recognizable.

Gadera incitans, Wlk., C. & S. no. 1223, is from the W. Indies.

Gadirtha rectifera, Wlk., C. & S. no. 2404. Type lost; description not recognizable.

Gyrtona muscosa, Wlk., C. & S. no. 2377. Type lost; description not recognizable.

Gesonia secundalis, Wlk., C. & S. no. 2828. Type lost; description not recognizable.

Hydrœcia lampadifera, Wlk., C. & S. no. 2132. Type lost; description not recognizable.

Heliothis temperata, Wlk., C. & S. no. 1739. Type lost; description not recognizable.

Hydrœcia naxiaoides, Moore, C. & S. no. 2133. Type lost; description not recognizable.

Hydrœcia tibetana, Moore, C. & S. no. 2134, is from Yarkand.

Heliothis hyblæoides, Moore, C. & S. no. 1732, is from Yarkand.

Heliothis dipsacea, Linn., C. & S. no. 1731, is from Europe and Yarkand.

Hadena stoliczkana, Moore, C. & S. no. 1944, is from Yarkand.

Homoptera intenta, Wlk., C. & S. no. 2462, is from N. America.

Herminia diffusalis, Wlk., C. & S. no. 2952. Type lost; description not recognizable.

Herminia timonalis, Wlk., C. & S. no. 2961. Type lost; description not recognizable.

Herminia limbosalis, Guen., C. & S. no. 2955. Probably not Indian.

Hypenodes altivolans, Butl. Ill. Het. vii, p. 16. Not the Hawaiian species; too worn to identify.

Homoptera costifera, Wlk., C. & S. no. 2460. Type lost; description not recognizable.

Homoptera procumbens, Wlk., C. & S. no. 2464. Type lost; description not recognizable.

Homoptera retrahens, Wlk., C. & S. no. 2465. Type lost; description not recognizable.

Hypena detersalis, Wlk., C. & S. no. 2872. Type lost; description not recognizable.

Hypena surreptalis, Wlk., C. & S. no. 2915. Type lost; description not recognizable.

Hypena gemina, Fabr., C. & S. no. 2879. Description not recognizable.

Imma rugosalis, Wlk., C. & S. no. 2940, is a Tinea.

Lithophane deflexa, Wlk., C. & S. no. 2330. Type lost; description not recognizable.

Lithophane inchoans, Wlk., C. & S. no. 2331. Type lost; description not recognizable.

Lamida moncusalis, Wlk., C. & S. no. 2942, is a Pyrale.

Laphygma obstans, Wlk., C. & S. no. 2123. Type lost; description not recognizable.

Laphygma trajiciens, Wlk., C. & S. no. 2124. Type lost; description not recognizable.

Melipotis (Thria) inepta, Butl. = *flexuosa*, Mén., C. & S. no. 2450, is from Afghanistan.

Micra balux, Swinh., C. & S. no. 1899, is a Pyrale.

Micra furia, Swinh., C. & S. no. 1901, is a Pyrale.

Macna pomalis, Wlk., C. & S. no. 2829, is a Pyrale.

Masca abactalis, Wlk., C. & S. no. 2838, is from Singapore and Java.

Mamestra canescens, Moore, C. & S. no. 2070, is from Yarkand.

Maradana rivulata, Moore, C. & S. no. 1910, is a Pyrale.

Nyctipao conturbans, Wlk., C. & S. no. 2538, is from Madagascar.

Noctua flava, Fabr., C. & S. no. 1805 (part.). Description not recognizable.

Neuria discrepans, Wlk., C. & S. no. 2142. Type lost; description not recognizable.

Ortospana connectens, Wlk., C. & S. no. 2574. Type lost; description not recognizable.

Ophisma circumferens, Wlk., C. & S. no. 2613. Type lost; description not recognizable.

Ophisma siamica, Wlk., C. & S. no. 2620, is from Siam.

Ophisma amabilis, Wlk., C. & S. no. 2612. Type lost; description not recognizable.

Osica undulata, Moore, C. & S. no. 1650 = *Toxoides longipennis*, Hmpsn. Vol. I. p. 185.

Oxicesta marmorea, Moore, C. & S. no. 1214, is from Yarkand.

Poaphila marginata, Wlk., C. & S. no. 2308, is a Pyrale.

Phyllodes verhuellii, Voll., C. & S. no. 2491, is from Siam.

Poaphila fuscipalpis, Wlk., C. & S. no. 2306. Type lost; description not recognizable.

Proneca fola, Swinh., Trans. Ent. Soc. 1890, p. 194, pl. vi, fig. 8, unrecognizable; the type has the head of a male Nolid (*Rhynchopalpus*) put on to the thorax and wings of a female Deltoid or Sarrothripid and the abdomen of some other species.

Platyja lobifera, Moore, C. & S. no. 2759, is from Siam.

Polydesma erubescens, Wlk., C. & S. no. 2447. Type lost; description not recognizable.

Phalæna margaritata, Drury, C. & S. no. 1903 (nec *Tima margarita*, Hübn., a Cymatophorid) = *Tarache monolifera*, Wlk., from Natal, not from New York.
Plusia dispellens, Wlk., C. & S. no. 2160. Type lost; description not recognizable.
Plusiodonta compressipalpis, Guen., C. & S. no. 2183, is from N. America.
Prodenia apertura, Wlk., C. & S. no. 2118. Type lost; description not recognizable.
Remigia caliginosa, Wlk., C. & S. no. 2699. Type lost; description not recognizable.
Rusina docilis, Wlk., C. & S. no. 2039, is a Notodont from Simla, genus *Ramesa*.
Sarbanissa insocia, Wlk., C. & S. no. 1971. Type lost; description not recognizable.
Spælotis indiana, Guen., C. & S. no. 2006; not identified.
Sarunga calida, Wlk., C. & S. no. 2835. Type lost; description not recognizable.
Targalla resoluta, Wlk., C. & S. no. 2196. Type lost; description not recognizable.
Targalla solida, Wlk., C. & S. no. 2197. Type lost; description not recognizable.
Thalpochares flavida, Moore, C. & S. no. 1892, is a Pyrale.
Tæniocampa chiklika, Moore, C. & S. no. 1921, is from Yarkand.
Toxocampa quinquelinea, Wlk., C. & S. no. 2300. Type lost; description not recognizable.
Toxocampa sexlinea, Wlk., C. & S. no. 2301. Type lost; description not recognizable.
Thermesia decisa, Wlk. Char. Undescr. Het. p. 92. Type lost; description not recognizable.
Ujia disjungens, Wlk., C. & S. no. 2830, is from Singapore.
Varnia incerta, Wlk., C. & S. no. 2213 = *Tamraca torridalis*, Led., is a Pyrale.
Xanthodes duplicata, Wlk., C. & S. no. 1804, is from Siam.
Zethes soluta, Wlk., C. & S. no. 2719. Type lost; description not recognizable.
Zinna nigripalpis, Wlk., C. & S. no. 2834. Type lost; description not recognizable.

Family EPICOPIIDÆ.

Large moths that "mimic" the *Papilios* of the *philoxenus* group. Proboscis present; palpi minute and porrect; antennæ bipectinated in both sexes. Mid tibiæ with one pair of long spurs; hind tibiæ with two pairs. Frenulum rudimentary. Fore wing with vein 1 *b* forked at the base, 1 *c* absent; a rudimentary forked veinlet in the cell, which is short; vein 5 from middle of discocellulars; 7 separate from 8, 9. Hind wing with one internal vein; a rudimentary veinlet in cell; vein 8 free from the base.

Larva covered with long processes of white efflorence exuded from the skin, and said to "mimic" a colony of the larvæ of an Homopterous insect (*Dudgeon*).

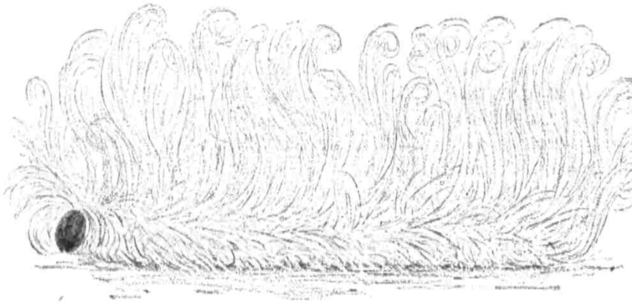

Fig. 54.—Larva of *Epicopia polydora*. ¼.

Genus EPICOPIA.

Epicopeia, *Westw. Arc. Ent.* i, p. 17 (1845).

Type, *E. polydora*, Westw.

Range. The Himalayas and Assam.

Antennæ with the branches short, and in the female dilated at extremities. Fore wing with veins 8, 9, 10 stalked. Hind wing with the apex much excised; the outer margin more or less tailed or lobed; vein 5 from middle of discocellulars; 6 and 7 much curved.

3017. **Epicopia polydora**, *Westw. Arc. Ent.* i, p. 19, pl. 5, fig. 1; *C. & S.* no. 358.

Epicopeia philoxenœa, *Moore, P. Z. S.* 1865, p. 799; *C. & S.* no. 357.

Epicopeia diphilæa, *Moore, P. Z. S.* 1865, p. 800; *C. & S.* no. 352.

Epicopeia excisa, *Butl. Ill. Het.* v, p. 46, pl. 88, fig. 5; *C. & S.* no. 353.

Epicopeia caudata, *Butl. Ill. Het.* v, p. 47, pl. 88, fig. 8; *C. & S.* no. 351.

Epicopeia lidderdali, *Butl. Ill. Het.* v, p. 47, pl. 88, fig. 6; *C. & S.* no. 354.

Epicopeia maculata, *Butl. Ill. Het.* v, p. 47, pl. 88, fig. 7; *C. & S.* no. 355.

♂. Head and collar crimson; thorax and abdomen black above, crimson below; the abdomen with lateral black spots and ventral bands. Fore wing fuscous; the veins, margins, and streaks between the nervules black. Hind wing black shot with blue; two or three white spots beyond the cell, which may be either small and rounded, or long streaks, or an incipient angulated band; along the margin of the tail are some crimson spots, which may be almost entirely obsolete or may consist of a streak at anal angle and four marginal ring-spots, the upper portion of which may be white. Underside; fore wing with a crimson spot on the costa, near end

of cell, sometimes showing on the upperside, sometimes forming an almost complete band across the wing; hind wing with a pink spot on the costa, sometimes forming a complete band by being connected with the white spots beyond the cell and the pink streak at anal angle; the marginal spots more or less complete, as on upperside.

♀ with the fore wing broader; the hind wing scarcely or not at all shot with blue; the crimson spot on the costa of each wing below sometimes absent.

In the forms *maculata*, *lidderdali*, and *diphilæa* the hind wing is quadrate and not produced into a tail at veins 6 and 7, the white spots on the hind wing being small in the 1st, large in the 2nd, and long streaks in the 3rd. In *caudata* the hind wing is produced into a tail at veins 6 and 7, and in all the above forms the crimson spots along outer margin are small. In

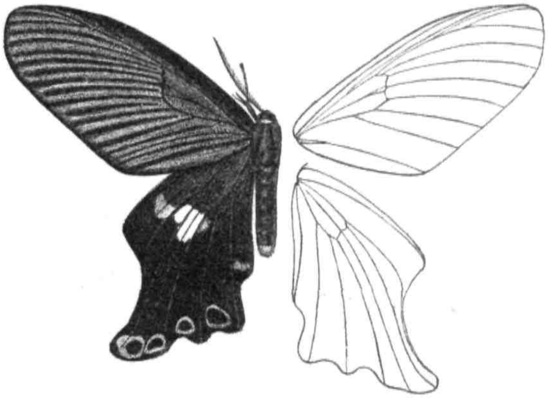

Fig. 55.—*Epicopia polydora*, ♂. ⅔.

the forms *philoxenæa*, *polydora*, and *excisa* the hind wing is produced into a tail and the crimson spots form four ring-spots, those towards anal angle being sometimes the largest, sometimes the smallest; in the 1st the excisions between anal angle and tail are slight, more developed in the 2nd, and four in number and deep in the 3rd, but all the forms grade into each other.

Larva covered with scales of white waxy efflorescence excreted from the cuticle and often one inch in length; when full fed it descends from its food-plant by a silken thread and spins a slight cocoon.

Hab. Mussooree; Sikhim; Bhután; Khásis; Nágas. *Exp.*, ♂ 112–120, ♀ 114 millim.

3018. **Epicopia philenora**, *Westw. Arc. Ent.* i, p. 19, pl. 5, fig. 2; *C. & S.* no. 356.

Epicopeia varunæa, *Moore, P. Z. S.* 1865, p. 799; *C. & S.* no. 359.

Differs from *polydora* in the hind wing being without the white band and spots on upper and under sides; the crimson spots

smaller; a crimson spot at anal angle and two on outer margin are sometimes present. Underside with the crimson spots on costa of fore and hind wing and at anal angle generally present, and sometimes spots on outer margin of hind wing are present.

In the form *philenora* the hind wing is quadrate; in *varunæa* it is produced.

Hab. Sikhim; Assam. *Exp.*, ♂ 116, ♀ 134 millim.

Family URANIIDÆ.

A family of large or moderate-sized moths of diurnal or semi-diurnal habits. Proboscis present; palpi rather slender. Frenulum absent. Fore wing with vein 1 *b* forked at base; 1 *c* absent or minute; 5 from middle of discocellulars; 6, 7 stalked, or 7 from cell; 8 and 9 given off before end of cell. Hind wing with vein 1 *c* and usually 1 *a* absent; 5 from middle of discocellulars, 8 free from the base and with a præcostal spur.

Larva with 5 pairs of prolegs; the head small; the somites tuberculated.

Pupa with an external sheath for the proboscis extending beyond the wing-cases; an acute deflexed terminal spine.

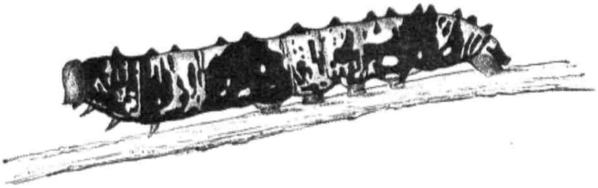

Fig. 56.—Larva of *Nyctalemon patroclus*. $\frac{1}{1}$.
(From Kühn, 'Iris,' 1887, pl. 6, fig. 9.)

Key to the Genera.

A. Hind wing with the discocellulars almost straight and erect.
- *a*. Hind wing with two tails; fore wing with veins 10 and 11 absent .... 1. NYCTALEMON, [p. 111.
- *b*. Hind wing with a short tail or angle at vein 4, the margin rarely rounded.
  - *a'*. Fore wing with no areole.
    - a^2. The cell of both wings very short; veins 3, 4 of both wings stalked .. 2. URAPTEROIDES, [p. 112.
    - b^2. The cell of normal length; veins 3, 4 of both wings from angles of cell.
      - a^3. Antennæ of both sexes slender and ciliated .... 3. STROPHIDIA, p. 113.

b^3. Antennæ of both sexes thickened and flattened.
a^4. Hind wing with the tail angled; veins 2 and 3 of fore wing from a point in male.............. 5. PSEUDOMICRONIA, [p. 116.
b^4. Hind wing with short pointed tail; male with veins 2 and 3 of fore wing stalked, 6, 7 from angle of cell .... 6. MICRONIA, p. 117.
c^4. Hind wing with the margin angled or rounded; male with the costa of hind wing lobed at base; veins 2 and 3 of fore wing stalked, 4 remote from 5, and the discocellulars distorted. 4. ACROPTERIS, p. 114.
c^3. Antennæ with uniseriate branches. 9. PSEUDHYRIA, p. 120.
b'. Fore wing with an areole............ 7. CHATAMLA, p. 117.
B. Hind wing with the upper discocellular highly angled. Fore wing excised below apex .... 8. AUZEA, p. 118.

Genus **NYCTALEMON.**

Nyctalemon, *Dalman, Act. Holm.* 1824, p. 407.

Type, *N. patroclus*, Linn.

Range. China; Sylhet; Burma; Andamans; Philippines; Borneo; Java; Moluccas; New Guinea; New Ireland; Solomons.

Palpi upturned, the third joint long and slender. Antennæ simple. Fore wing with vein 1 *b* forked at base, and sending a bar to the minute vein 1 *c*; the cell short; veins 3 and 4 stalked; 5 from just above middle of discocellulars; 6 and 7 stalked; 8 and 9 stalked; 10, 11 absent. Hind wing with a long tail at veins 3 and 4, and a short curved tail at vein 6; one internal vein; 2 from near end of cell; 3 and 4 stalked and traversing the tail; 6 curved and traversing the short tail.

3019. **Nyctalemon patroclus**, *Linn. Mus. Lud. Ulr.* p. 204; *id. Syst. Nat.* i, 2, p. 749; *Westw. ed. Drury* i, pl. 7, fig. 1; *Kühn, Corresp.-Blatt ent. Vereins 'Iris,'* 1887, p. 183, pl. 6, fig. 9 (larva); *C. & S.* no. 3046.
Nyctalemon hector, *Wlk. Cat.* vii, p. 1771.
Nyctalemon macleayi, *Montr. Ann. Soc. Phys. Lyon*, 1857, p. 410.
Nyctalemon zampa, *Butl. Ent. Mo. Mag.* v, 1868, p. 273; *C. & S.* no. 3047.
Nyctalemon najabula, *Moore, P. Z. S.* 1877, p. 620; *C. & S.* no. 3045.
Nyctalemon docile, *Butl. Trans. Linn. Soc.* (2) i, p. 562 (1879).
Lyssidia goldei, *Druce, P. Z. S.* 1882, p. 781.

Head, thorax, and abdomen brown. Fore wing brown, with numerous dark striæ on the basal area, those on the costa large and black; a straight whitish band just beyond the middle. Hind

wing brown, the pale band continued across it; numerous black striæ on outer area; a broken blackish submarginal line; cilia and end of the long tail white. Underside with the basal area of both wings pale, the whole of both wings striated.

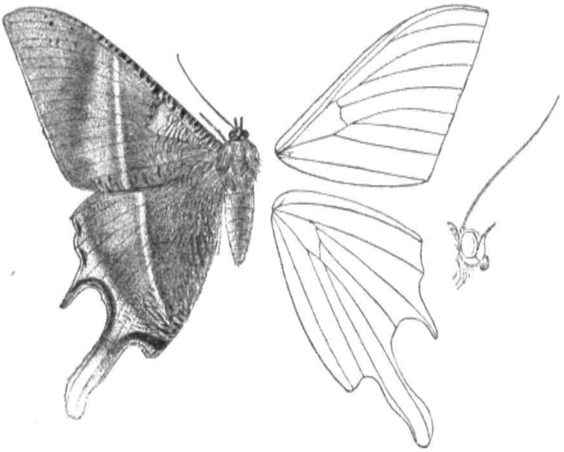

Fig. 57.—*Nyctalemon patroclus*, ♂. ½.

The form *docile*=*hector*, from Burma, Malacca, and Borneo, has the band pure white; in *goldei*=*macleayi*, from New Guinea, Timor, New Ireland, and New Britain, the band of the fore wing is white and broad; in typical *patroclus*, from New Ireland, it is broad and suffused with brown; in *najabula*=*zampa*, from Sylhet and Andamans, it is narrow and brownish.

Larva white, with numerous very irregular black markings, which coalesce on the thoracic 5th, 6th, and 10th somites to form blotches; a series of small dorsal setiferous tubercles. Head and legs red-brown.

Hab. China; Sylhet; Burma; Andamans; Malacca; Philippines; Papuan subregion. *Exp.*, ♂ 134–144, ♀ 140–170 millim.

Genus **URAPTEROIDES**.

Urapteroides, *Moore, Lep. Atk.* p. 258 (1888).

Type, *U. astheniata*, Guen.

Range. Central Africa; Sikhim; Ceylon; Malayan and Papuan subregions.

Palpi slight and porrect. Antennæ of male thickened and flattened, of female simple. Fore wing broad; veins 3 and 4 stalked; 6 and 7 stalked; 10 and 11 present. Hind wing with an angled tail at vein 4; veins 3 and 4 stalked.

3020. **Urapteroides astheniata**, *Guen. Phal.* ii, p. 24; *C. & S.* no. 4025.

White; palpi with a black line on the upperside; a black frontal line and spot on vertex of head. Fore wing with some black strigæ from the costa; six oblique fuscous bands, one subbasal, another on discocellulars, the others medial, postmedial, submarginal, and marginal; some fuscous striæ on each side of the

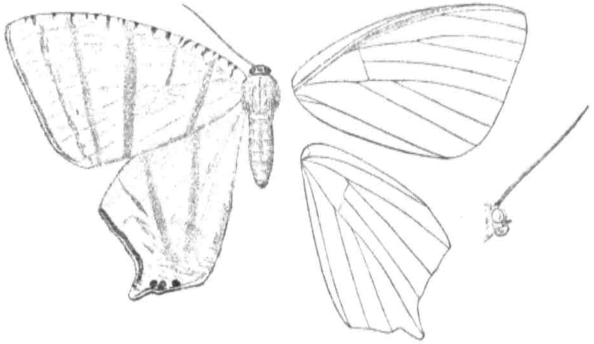

Fig. 58.—*Urapteroides astheniata*, ♀. ¾.

submarginal band. Hind wing with a fuscous band on inner margin joined at anal angle by a band from the upper angle of cell, and almost met by one from the costa beyond the middle; some submarginal striæ; a black marginal line from the apex to the tail, and a very narrow line with three spots inside it from the tail to anal angle; cilia tipped with black.

Hab. Sikhim; Khásis; Ceylon; Penang; Borneo. *Exp.* 76 millim.

Genus STROPHIDIA.

Strophidia, *Hübn. Verz.* p. 290 (? 1818).

Type, *S. fasciata*, Cram.

Range. Sikhim; Assam; Ceylon; Burma; Andamans; Singapore; Borneo; Java.

Palpi long, slender, and porrect. Antennæ slender and ciliated. Hind tibiæ of male with the extremity produced on upperside; a terminal pair of spurs only; a tuft of long hair from the base on upperside; hind tarsus with the first joint long and dilated. Fore wing with the costa arched; the apex acute; the outer margin straight; veins 3 and 4 from angle of cell; 6 and 7 stalked; 8, 9 stalked; 10 from cell. Hind wing with the margin produced to an angled tail at vein 4; veins 3 and 4 from angle of cell.

3021. **Strophidia fasciata**, *Cram. Pap. Exot.* ii, p. 12, pl. 104, fig. D; *C. & S.* no. 4016.
Phalæna caudata, *Fabr. Ent. Syst.* iii, 2, p. 163.
Micronia obtusata, *Guen. Phal.* ii, p. 25, pl. 5, fig. 6.

Head, thorax, and abdomen white, with a brown tinge. Fore wing white, with some black striæ from the costa; three double subbasal fuscous lines; two medial bands and one postmedial of double lines, which bifurcate towards the costa; some submarginal lines and striæ; a marginal black line. Hind wing white, with

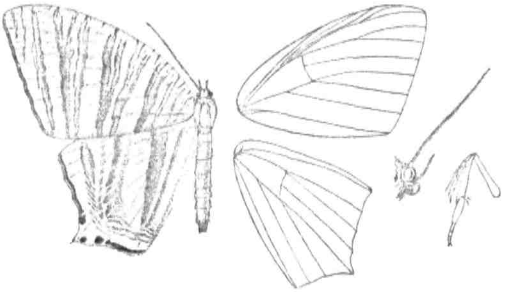

Fig. 59.—*Strophidia fasciata*, ♂. 1/1.

two lines on inner area and medial and postmedial bands, all these approaching each other towards anal angle, and terminating on a submarginal band of striæ; black marginal lines from apex to tail, and tail to anal angle; one black spot at base of tail on its upper edge, and two on its lower edge. Underside white.

Hab. Sikhim; Assam; Ceylon; Tavoy; Andamans; Singapore; Borneo; Java. *Exp.* 66 millim.

Genus ACROPTERIS.

Acropteris, *Hübn. Zutr.* iv, p. 36 (1832).

Type, *A. striataria*, Clerck.

Range. Japan; and throughout the Oriental and Australian regions.

Palpi slender, upturned, and reaching vertex of head; antennæ of male thickened and flattened. Fore wing with the costa arched, the apex acute, the outer margin straight; veins 3 and 4 from angle of cell in female; male with veins 2 and 3 stalked, 4 remote from 5, and the discocellulars distorted, 6 and 7 stalked; 8, 9, 10 stalked. Hind wing with the costa much lobed at base; veins 3 and 4 from angle of cell.

SECT. I. Hind wing with the margin angled at vein 4. Fore wing with the costa slightly arched, the apex acute. Male with tufts of scales at base of median nervure and a fold from them through cell to outer margin.

3022. **Acropteris striataria,** *Clerck, Icon. Ins.* pl. 55, fig. 4; *C. & S.* no. 4022.

Acropteris grammearia, *Hübn. Zutr.* iv, p. 36; *C. & S.* no. 4021.
Acropteris caseata, *Guen. Phal.* ii, p. 27; *C. & S.* no. 4020.
Micronia teriadata, *Guen. Phal.* ii, p. 29; *C. & S.* no. 4015.
Micronia sparsaria, *Wlk. Cat.* xxiii, p. 818; *C. & S.* no. 4014.
Micronia ciniferaria, *Wlk. Cat.* xxxv, p. 1642.
Micronia vagata, *Moore, P. Z. S.* 1877, p. 622, pl. 60, fig. 18; *C. & S.* no. 4023.

Head, thorax, and abdomen white, with a brownish tinge. Fore wing white, striated with fuscous; three double fuscous lines from the apex, the first reaching the inner margin near the base, the second at middle, the third submarginal; some dark marks near

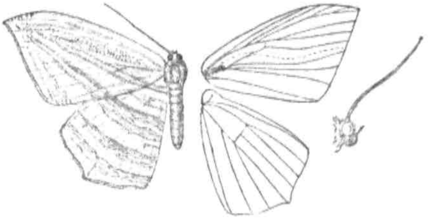

Fig. 60.—*Acropteris striataria,* ♂. 1/1.

the apex; a slender brown marginal line. Hind wing white, with two subbasal bands of fuscous striæ, and medial, postmedial, and submarginal bands; a fine marginal brown line and black speck on tail. Underside white or fuscous in each sex.

Some specimens have the double lines of the fore wing and bands of the hind wing almost completely filled in with fuscous, and the spaces between the bands of the fore wing without striæ. The form *teriadata* is small (30–40 millim.), the hind wing with a few striæ between the bands; *sparsaria*, a larger form, also has some striæ between the bands of the hind wing; *ciniferaria* is nearly evenly striated all over, the oblique lines of fore wing sometimes single and ill-defined.

Hab. Himalayas; Assam; Burma; Mergui; Siam; Java. *Exp.* 30–44 millim.

3023. **Acropteris obliquaria,** *Moore, P. Z. S.* 1877, p. 622, pl. 60, fig. 17; *C. & S.* no. 4013.

Differs from *striataria* in being evenly and sparsely striated; the lines single; the submarginal line of hind wing crenulate;

the black marginal points near tail of hind wing prominent. Underside white.

Hab. Sikhim; Khásis; Travancore; Tenasserim; Andamans. *Exp.* 41 millim.

Sect. II. Hind wing with the outer margin rounded. Fore wing with the costa more arched, the apex less acute; male without the tufts and fold; vein 4 from beyond 2 and 3.

3024. **Acropteris iphiata**, *Guen. Phal.* ii, p. 29.
Acropteris pontiata, *Guen. Phal.* ii, p. 29.
Micronia convexaria, *Wlk. Cat.* xxiii, p. 819.

Differs from *striataria* in the cell of the fore wing being suffused with fuscous; the first line single and well defined; a ferruginous subapical patch; the marginal line of both wings almost black.

Hab. Japan; China; Himalayas; Khásis; Burma. *Exp.* 32–36 millim.

Genus **PSEUDOMICRONIA**.

Pseudomicronia, *Moore, Lep. Ceyl.* iii, p. 461 (1887).

Type, *P. cœlata*, Moore.

Range. N.E. India; Nilgiris; Ceylon; Andamans; Borneo; Ceram.

Palpi short, porrect, and not very slender. Antennæ thickened and flattened. Mid tibiæ with one pair of spurs, hind tibiæ with two pairs. Fore wing with the costa slightly arched; the apex rounded, the outer margin straight; veins 2 and 3 from a point before end of cell; 6 and 7 stalked; 8, 9, 10 stalked. Hind wing with an angled tail at vein 4; veins 3 and 4 from cell.

3025. **Pseudomicronia cœlata**, *Moore, Lep. Atk.* p. 257; *C. & S.* no. 4017.
Pseudomicronia fraterna, *Moore, Lep. Ceyl.* iii, p. 461, pl. 203, fig. 2; *C. & S.* no. 4018.

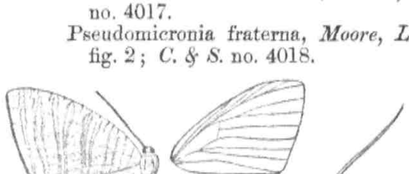

Fig. 61.—*Pseudomicronia cœlata*, ♂. ½.

Head, thorax, and abdomen pure white. Wings pure white, the markings as in *Strophidia fasciata*, except that they are narrow and pale fuscous; the marginal line narrow and fuscous; two spots only at base of tail of hind wing.

Hab. Sikhim; Khásis; Nilgiris; Ceylon; Borneo; Ceram. *Exp.* 44 millim.

3026. **Pseudomicronia simplicifascia**, *Swinh. MS.*

♂. Differs from *cœlata* in the fore wing having some black strigæ from the costa; oblique antemedial, medial, and postmedial

narrow pale brown bands, the medial bifurcating towards costa; two fine submarginal lines. Hind wing with the marginal band and two spots at tail brown.

Hab. Andamans. *Exp.* 46 millim.

Genus **MICRONIA**.

Micronia, *Guen. Phal.* ii, p. 22 (1857).

Type, *M. aculeata*, Guen.

Range. China; Formosa; throughout India, Ceylon, and Burma; Andamans; Java; Borneo.

Palpi porrect, slender, and rather long. Antennæ thickened and flattened. Hind leg of male with the femur very slender, the tibiæ thickened, with one medial spur and a terminal pair; a tuft of short hair from the base on upperside. Fore wing with the costa arched towards apex, which is acute; the outer margin straight; veins 2 and 3 on a short stalk; 6 and 7 from angle of cell; 8, 9, 10 stalked. Hind wing with an angle at vein 4; veins 3 and 4 from cell.

3027. **Micronia aculeata**, *Guen. Phal.* ii, p. 26, pl. 13, fig. 8; *C. & S.* no. 4012.
Micronia gannata, *Guen. Phal.* ii, p. 26.
Micronia sondaicata, *Guen. Phal.* ii, p. 26.

Head, thorax, and abdomen white, with a fuscous tinge. Wings white, closely striated with fuscous; somewhat ill-defined ante-

Fig. 62.—*Micronia aculeata*, ♂. ½.

medial, medial, and postmedial fuscous oblique bands; a fine marginal line and black spot at base of tail of hind wing. Underside white or fuscous.

Hab. China; Formosa; throughout India, Ceylon, and Burma; Andamans; Java; Borneo. *Exp.* 42–50 millim.

Genus **CHATAMLA**.

Chatamla, *Moore, P. Z. S.* 1881, p. 326.

Type, *C. flavescens*, Wlk.

Range. Sikhim; Khásis; Sylhet.

Antennæ with fascicles of cilia in the male, simple in the

female. Palpi short and porrect. Fore wing with veins 2 and 3 given off before the end of the cell, 4 from the angle; 5 from the middle of the discocellulars; 6 and 7 stalked from the upper angle of cell; 8, 9, 10 stalked. Hind wing with the outer margin excised from veins 4 to 7; 1 *a*, 1 *b* present; 2 and 3 at intervals before the end of the cell; 4 from the angle; 5 from the middle of the discocellulars; 6 and 7 from the upper angle.

3028. **Chatamla flavescens**, *Wlk. Cat.* ii, p. 406; *Butl. Ill. Het.* i, pl. 14, fig. 3; *C. & S.* no. 426.
Chatamla tricolor, *Butl. Ill. Het.* v, p. 20, pl. 83, fig. 1; *C. & S.* no. 428.
Euschema nigrescens, *Moore, Lep. Atk.* p. 20; *C. & S.* nos. 427 and 3085.

Head and thorax black, the frons yellow; collar and tegulæ spotted with yellow; abdomen ringed yellow and black. Fore wing black, with three antemedial yellowish spots, one in the cell and two below, the one in the cell sometimes diffused towards the base, a series of five white spots beyond the cell, and a submarginal

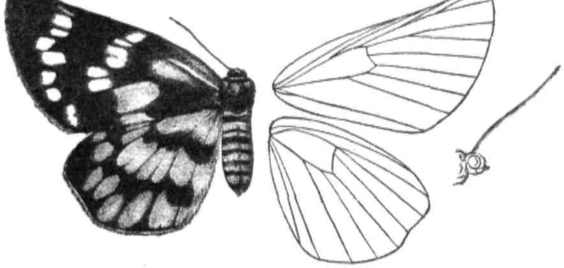

Fig. 63.—*Chatamla flavescens*, ♂. 1/1.

series of seven spots. Hind wing bright yellow, with an irregular black antemedial band; a similar postmedial band sending black streaks along the veins to the irregular black margin.

In the form *nigrescens* the whitish spots of the fore wing and yellow markings of the hind wing are rather reduced. In the form *tricolor* they are so much enlarged that the black markings of the fore wing are smaller than the pale spots, and in the hind wing all the black markings except the antemedial band are almost entirely obsolete.

Hab. Sikhim; Khásis; Sylhet. *Exp.*, ♂ 64, ♀ 70 millim.

Genus AUZEA.

Auzea, *Wlk. Cat.* xxv, p. 1487 (1862).

Type, *A. rufifrontata*, Wlk.

Range. Sikhim; Khásis; Nágas; Canara.

Palpi short and porrect; antennæ usually slightly thickened; legs with the spurs short. Fore wing with the apex produced

to a rounded lobe, the outer margin being excised below it; the discocellulars oblique; veins 6, 7 and 8, 9 stalked; 10 absent. Hind wing with veins 6 and 7 from angle of cell.

SECT. I. Fore wing with vein 5 from the middle of discocellulars; hind wing with it from below the middle.

3029. **Auzea rufifrontata**, *Wlk. Cat.* xxv, p. 1487; *Butl. Ill. Het.* vi, pl. 113, fig. 10; *C. & S.* no. 3227.
Cyclidia rectata, *Wlk. Cat.* xxxv, p. 1536; *C. & S.* no. 3127.

Frons and tibiæ crimson; thorax and abdomen grey-brown, the latter fulvous at extremity. Fore wing grey-brown; a very oblique antemedial vinous-brown line angled below the costa, and with some grey on its inner edge; a similar postmedial line with a series of white specks on the nervules beyond it; some submarginal dark specks; costa dark crimson towards apex. Hind wing with the costal half whitish, the inner area grey-brown; a

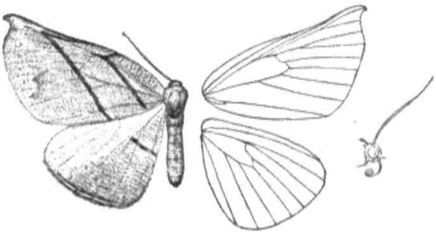

Fig. 64.—*Auzea rufifrontata*, ♂. ½.

brown antemedial line from the median nervure to inner margin; a marginal vinous-brown line traversed by an interrupted white line. Underside with the outer margin of fore wing tawny towards apex.

Hab. Sikhim; Khásis; Nágas. *Exp.* 54 millim.

SECT. II. Both wings with vein 5 from above the middle of discocellulars.

A. *Antennæ thickened and flattened.*

3030. **Auzea arenosa**, *Butl. A. M. N. H.* (5) vi, p. 121; *id. Ill. Het.* pl. 113, fig. 9; *C. & S.* no. 3223.

♂. Thorax and abdomen brown, the latter fulvous towards extremity. Fore wing yellowish brown; an antemedial oblique tawny line angled below the costa; a dark speck at end of cell; an oblique tawny postmedial line; an obscure series of submarginal dark specks. Hind wing with an oblique tawny antemedial line not reaching the costa; some indistinct diffused postmedial

fuscous blotches. Underside with the costa of fore wing and outer margin of both wings fulvous.

Hab. Sikhim; Nágas. *Exp.* 52 millim.

3031. **Auzea hyperythra**, n. sp.

♂. Differs from *arenosa* in being more rufous. Fore wing with oblique chestnut lines from end of cell and apex to inner margin; the veins chestnut; a submarginal series of white and black specks. Hind wing with the costal area chestnut; an oblique antemedial chestnut line with white strigæ on the veins beyond it; traces of a submarginal series of black specks; both wings with marginal white line and the cilia chestnut. Underside orange.

Hab. Sikhim (*Knyvett*). *Exp.* 58 millim. Type in coll. Elwes.

B. *Antennæ with uniseriate branches.*

3032. **Auzea torridaria**, *Moore, P. Z. S.* 1867, p. 617; *C. & S.* no. 3244.

♀. Differs from *arenosa* in being greyer; fore wing with only one line, which is more oblique and darker, with slight white and black marks on the veins beyond it, most prominent at apex. Underside of both wings with the line blackish; the outer area suffused with red.

Hab. "Bengal"; N. Canara. *Exp.* 52 millim.

Genus **PSEUDHYRIA**, nov.

Type, *P. rubra*, Hmpsn.

Range. Nilgiris.

Palpi minute; antennæ with uniseriate branches. Fore wing with the apex acute and produced; vein 3 from before angle of cell; 6, 7 from upper angle; 8, 9 stalked; 10 absent; 11 anastomosing with 12. Hind wing with the margin rounded; 3 from before angle of cell; 6, 7 from upper angle.

3033. **Pseudhyria rubra**, *Hmpsn. Ill. Het.* viii, p. 111, pl. 151, fig. 8.

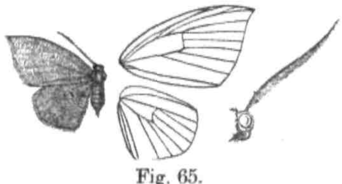

Fig. 65.
Pseudhyria rubra, ♀. 1/1.

♀. Brick-red, thickly irrorated with fuscous; vertex of head and shaft of antennæ white; both wings with dark cell-speck and faint traces of ante- and postmedial lines; the cilia golden yellow. Underside grey, with fuscous irroration.

Hab. Nilgiris. *Exp.* 28 millim.

Family EPIPLEMIDÆ.

Proboscis and frenulum present. Fore wing with vein 1 *a* separate from 1 *b*; 1 *c* absent; 5 from or from above the middle of discocellulars; 7 widely separated from 8, and usually stalked with 6. Hind wing with two internal veins; vein 5 from or from above the middle of discocellulars; 8 free from the base.

Larvæ with five pairs of prolegs and sparsely clothed with hair.

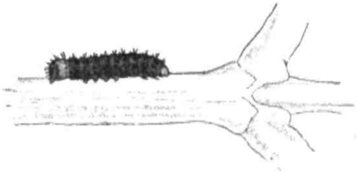

Fig. 66.—Larva of *Epiplema latifasciata*. ⅟. (From Moore, Lep. Ceyl. iii, pl. 186, fig. 12.)

Key to the Genera.

A. Both sexes with uniseriate branches to antennæ.	
a. The branches of antennæ short and thick.	1. PARADECETIA, p. 122.
b. The branches of antennæ long	2. DECETIA, p. 122.
B. Antennæ not unipectinate.	
a. Both wings with the outer margin evenly rounded........................	3. AMANA, p. 123.
b. Hind wing with the outer margin excised, angled, or tailed.	
a'. Fore wing with veins 6 and 7 on a long stalk	
a². Hind wing with veins 3 and 4 stalked	4. ORUDIZA, p. 124.
b². Hind wing with veins 3 and 4 from cell.	
a³. Fore wing with vein 5 from upper angle of cell	5. EPIPLEMA, p. 125.
b³. Fore wing with vein 5 from below upper angle of cell.	
a⁴. Hind wing with the outer margin rounded, excised, and produced to points at the veins....................	6. DIRADES, p. 132.
b⁴. Hind wing with the outer margin produced to a point at vein 7, and straight from thence to anal angle or angled at vein 4	8. METORTHOCHILUS, [p. 135.
b'. Fore wing with veins 6 and 7 from cell or on a short stalk	7. GATHYNIA, p. 134.
c. Hind wing with the outer margin nearly straight; the apex produced beyond the outer angle of fore wing	9. ATOSSA, p. 136.

Genus **PARADECETIA.**

Paradecetia, *Swinh. Trans. Ent. Soc.* 1894, p. 164.

Type, *P. albistellaria*, Wlk.

Range. Khásis: Burma.

Palpi short and porrect; antennæ with short, thick, curved, uniseriate branches. Fore wing with the apex produced and acute; vein 5 from above the middle of discocellulars; 6 and 7 stalked; 8, 9, 10 stalked; 10 anastomosing with 11, which also anastomoses with 12. Hind wing with vein 5 from above middle of discocellulars.

3034. **Paradecetia albistellaria**, *Wlk. Cat.* xxv, p. 1522.

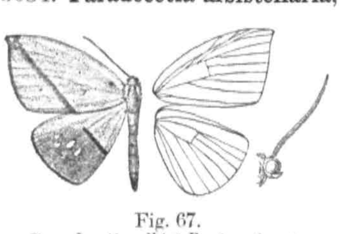

Fig. 67.
Paradecetia albistellaria, ♂. ½.

Ochreous white. Fore wing slightly speckled with pale brown; the apex crimson, with a fulvous line from it to the middle of inner margin. Hind wing with the oblique line continued across it and blood-red in colour, the area beyond it suffused with crimson and with four postmedial white spots on it; cilia rufous.

Hab. Khásis; E. Pegu; Shán States. *Exp.* 44 millim.

Genus **DECETIA.**

Decetia, *Wlk. Cat.* xx, p. 232 (1860).

Type, *D. numicusaria*, Wlk.

Range. Assam; Calcutta; the Western Ghâts; Ceylon; Burma.

Palpi short and porrect; antennæ with long uniseriate branches, shorter in female than in male. Fore wing with the apex produced to a point, the outer margin excised below it; vein 5 from above the middle of discocellulars; 6 and 7 stalked; 9 and 10 stalked; 11 becoming coincident with 12.

Sect. I. Hind wing with vein 5 from near upper angle of cell.

3035. **Decetia numicusaria**, *Wlk. Cat.* xx, p. 95.

Decetia capetusaria, *Wlk. Cat.* xx, p. 233; *C. & S.* no. 3224.
Drepanodes circulitaria, *Wlk. Cat.* xxvi, p. 1489.

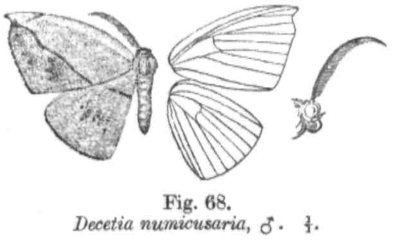

Fig. 68.
Decetia numicusaria, ♂. ½.

♂. Pale ochreous brown; wings irrorated with fuscous; a very oblique ferruginous line from the apex of fore wing to near base of inner margin of hind wing, slightly curved near the apex; some white submarginal specks towards apex of fore wing; cilia rufous.

♀. Browner; the oblique line brown. Hind wing with five white postmedial spots, and the area beyond them brown with a pale marginal line.
Hab. Sylhet. *Exp.*, ♂ 40, ♀ 44 millim.

3036. **Decetia subobscurata**, *Wlk. Cat.* xxvi, p. 1495; *Hmpsn. Ill. Het.* ix, pl. 168, figs. 1 & 7; *C. & S.* no. 3228.

♂. Pale olive-brown; fore legs orange. Fore wing with the apex suffused with brown; a dark speck at end of cell; an oblique brown line from just before the apex to middle of inner margin; a series of dark submarginal specks. Hind wing with an oblique antemedial brown line; a large diffused black patch at end of cell; cilia rufous.
♀. Much redder in tone; traces of grey specks instead of the dark submarginal specks on the fore wing, and black blotches on the hind wing.
Hab. Nilgiris; Travancore; Ceylon. *Exp.* 50 millim.

3037. **Decetia bilineata**, n. sp.

Pale reddish or ochreous brown. Fore wing with an indistinct darker antemedial line angled at the subcostal and median nervures, and very oblique from the latter to inner margin; a similar but more regular postmedial line; a black speck on an ochreous spot at end of cell; traces of a diffused fuscous band beyond the postmedial line, and a submarginal series of black and white specks. Hind wing similar, the first line subbasal. Underside with the outer area of both wings suffused with brick-red.
In one specimen the antemedial line of the fore wing is fuscous, and the postmedial line has fuscous blotches on the costa and inner margin.
Hab. Chin Hills and Tilin Yaw, Burma (*Watson*). *Exp.*, ♂ 52, ♀ 58 millim. Type in B. M.

SECT. II. Hind wing with vein 5 from middle of discocellulars.

3038. **Decetia pallida**, *Moore, Lep. Atk.* p. 232, pl. viii, fig. 1; *C. & S.* no. 3226.

♂. Pale ochreous. Fore wing with an annulus at end of cell with two streaks from it; an oblique rufous line from apex to inner margin of hind wing before middle, with an indistinct waved line beyond it on fore wing. Hind wing with a semidiaphanous streak beyond the cell; cilia rufous.
Hab. Calcutta. *Exp.* 42 millim.

Genus **AMANA**.

Amana, *Wlk. Cat.* iii, p. 661 (1855).

Type, *A. angulifera*, Wlk.
Range. Khásis.

Palpi hairy, porrect, and reaching just beyond frontal tuft. Antennæ slightly thickened and flattened. Fore wing with vein 5 from above the middle of discocellulars; 6 and 7 stalked; 8, 9, 10 stalked from before end of cell. Hind wing with vein 5 from near upper angle of cell.

3039. **Amana angulifera**, *Wlk. Cat.* iii, p. 662.

♂. Dark brown; antennæ, palpi, and underside of thorax and abdomen fulvous. Fore wing with a yellow fascia from the base of costa traversing the interno-median interspace to close to outer

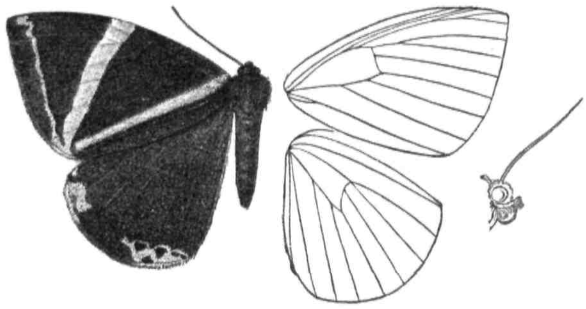

Fig. 69.—*Amana angulifera*, ♂. ½.

angle, where it almost meets an oblique band from the costa beyond the middle and a submarginal line. Hind wing with an orange patch at apex, and some orange with dark lunules on it towards anal angle.

Hab. Khásis. *Exp.* 70 millim.

Genus **ORUDIZA.**

Orudiza, *Wlk. Cat.* xxiii, p. 857 (1861).

Type, *O. protheclaria*, Wlk.

Range. N.E. India; W. Gháts and Malabar; Burma; Java.

Palpi short, slender, and obliquely porrect; antennæ thickened and flattened. Fore wing with the apex produced to a short point, the outer margin to long points at veins 7 and 4, between which it is excised; vein 5 from the upper angle of cell; 6 and 7 stalked; 8, 9, 10 stalked from cell. Hind wing with short tails on outer margin at veins 3 and 4; an angle at vein 2, and excised from vein 2 to the anal angle; veins 3 and 4 stalked; 5 from towards upper angle of cell; 6 and 7 stalked.

3040. **Orudiza protheclaria**, *Wlk. Cat.* xxiii, p. 858; *C. & S.* no. 3048.

Pale brown; frons chocolate; extremity of abdomen orange.

Fore wing with grey striæ on costa and outer area; outwardly-oblique antemedial and medial brown lines. Hind wing with an outwardly-oblique medial brown line angled at veins 3 and 2, then recurved to inner margin; outer area with a yellowish tinge; two marginal brown lines from apex to the tail at vein 4, where there is a black spot just inside the margin.

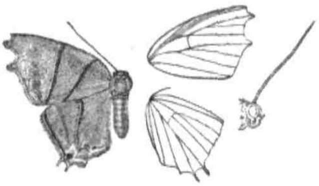

Fig. 70.
Orudiza protheclaria, ♀. ½.

Hab. Sikhim; Khásis; Poona; Canara; Travancore; Burma; Java. *Exp.* 36 millim.

Genus EPIPLEMA.

Epiplema, *Herr.-Schäffer, Samml. aussereur. Schmett.* p. 26 (1850).

Type, *E. acutangularia*, H.-S., from Brazil.

Range. Neotropical, Ethiopian, Oriental, and Australian regions, and the Palæarctic in S. Russia, Amur, and Japan.

Palpi porrect, projecting beyond the frons. Fore wing with vein 5 from the upper angle of cell; 6 and 7 stalked; 8 and 9 stalked; 10 usually from cell, rarely stalked with 8 and 9. Hind wing with veins 3 and 4 from angle of cell; 5 from middle of discocellulars; 6 and 7 from upper angle. Wings held more or less apart in repose.

SECT. I. Male with the antennæ thickened and flattened.

A. *Wings with outer margin indented below the apex and slightly excised from thence to vein 4.*

3041. **Epiplema columbaris,** *Butl. Ill. Het.* vii, p. 82, pl. 133, fig. 8.

♂. Dull hair-brown. Fore wing with indistinct darker striæ, some of which form indistinct ante- and postmedial nearly erect lines; cilia ochreous. Hind wing similar; the indistinct lines subbasal and antemedial.

Hab. Dharmsála; Simla. *Exp.* 30 millim.

B. *Fore wing with the outer margin deeply excised from veins 7 to 4. Hind wing with two indentures between the anal angle and vein 3.*

3042. **Epiplema edentata,** n. sp.

♂. Head and collar white; thorax fuscous. Fore wing white; the whole basal area except the costa clouded and speckled with fuscous; a double oblique fuscous line from below the apex to inner margin, the area beyond it clouded and striated with fuscous; some dark specks on the costa towards apex and rufous marks on

outer margin below the apex. Hind wing white; the basal area slightly speckled with fuscous; a broad fuscous medial band followed by a pure white band, both being bent towards inner margin; a broad fuscous marginal band with a white line on it.

Hab. Sikhim (*Möller*). *Exp.* 26 millim. Type in coll. Elwes.

C. *Fore wing with the outer margin slightly excised from the apex to vein* 3. *Hind wing produced to points at veins* 1, 2, 3, 4, *and* 7.

3043. **Epiplema reticulata**, *Moore, Lep. Atk.* p. 259; *C. & S.* no. 3068.

♂. Whitish, evenly and thickly speckled and striated all over with brown. Fore wing with an antemedial slightly oblique pale line and excurved postmedial line. Hind wing with a curved postmedial line; the veins of both wings pale, and the cilia traversed by a pale line.

Hab. Sikhim; Khásis. *Exp.* 30 millim.

D. *Fore wing with the outer margin excised from the apex to vein* 3. *Hind wing with slight tails at veins* 6 *and* 4.

3044. **Epiplema moza**, *Butl. A. M. N. H.* (5) i, p. 402; *id. Ill. Het.* iii, pl. 51, fig. 7.

Red-brown. Fore wing striated with dark brown; ante- and postmedial lines highly angled at middle, the latter with a dark patch on it at inner margin; three dark submarginal specks below the apex. Hind wing with a subbasal line from median nervure to inner margin; a brown line on discocellulars; the postmedial line very highly angled at vein 4, and with a chestnut line on each side of it converging to the angle; a series of greyish lunules striated with brown and defined by whitish lines and streaks on outer margin between the tails.

Hab. Japan; Simla; Dalhousie; Khásis. *Exp.* 20–30 millim.

3045. **Epiplema sreapa**, *Swinh. Trans. Ent. Soc.* 1894, p. 166.

♂. Dark leaden grey, with slight striation. Fore wing with the outer margin produced to a point below the apex as well as excised; minutely waved ante- and postmedial brown lines; the former angled below costa, the latter curved; a submarginal dark lunulate mark from apex to vein 3, with a minute dentition below apex. Hind wing with dark subbasal line not reaching the costa; some ochreous markings between lower angle of cell and inner margin; a pale postmedial line with black on its inner edge, rufous on its outer, highly angled and with two black points at vein 4, where there is a black submarginal point. Underside with four white spots between lower angle of cell of hind wing and inner margin.

Hab. Khásis. *Exp.* 32 millim.

E. *Fore wing with the outer margin evenly curved. Hind wing slightly produced at veins 4 and 7.*

3046. **Epiplema multistrigaria,** *Moore, Lep. Atk.* p. 260; *C. & S.* no. 3062.

♂. Grey, thickly and evenly striated all over with dark brown; fore wing with a black apical patch; hind wing with two black marginal spots between veins 2 and 4.

Hab. Simla; Sikhim. *Exp.* 26 millim.

F. *Fore wing with the outer margin evenly curved. Hind wing with slight tails at veins 4 and 7.*

3047. **Epiplema latifasciata,** *Moore, Lep. Ceyl.* iii, p. 403, pl. 186, figs. 12, 12 *a*, *b* (larva); *C. & S.* no. 3060.

Head, thorax, and abdomen brownish grey. Fore wing brownish grey, with a broad chocolate band irrorated with ochreous occupying the medial portion of wing, the line defining its inner edge slightly angled at the subcostal and median nervures, its outer edge with a prominent angle at vein 4; a chocolate band on outer margin below the apex and some purplish suffusion towards outer angle. Hind wing similar; the band narrower; the outer margin with chocolate lunules below the apex and between the tails.

Larva black, spotted with deep black and with a few short hairs; the first and anal somites yellow.

Hab. Ceylon. *Exp.*, ♂ 23, ♀ 28 millim.

3048. **Epiplema rhagavata,** *Wlk. Cat.* xxiii, p. 848; *Moore, Lep. Ceyl.* iii, pl. 186, fig. 3; *C. & S.* no. 3069.
Erosia palaca, *Wlk. Cat.* xxiii, p. 849; *C. & S.* no. 3064.
Erosia bidens, *Feld. Reis. Nov.* pl. 128, fig. 38; *C. & S.* no. 3050.

Grey-brown. Wings striated with brown; fore wing with an obscure antemedial line; a pale red-edged postmedial line angled at veins 4 and 6; a dark triangular mark on middle of outer margin. Hind wing similar; a subbasal line from median nervure to inner margin; a brown line on discocellulars; the postmedial line very highly angled at vein 4, and with a chestnut line on each side of it converging to the angle; a series of greyish lunules striated with brown and defined by whitish lines and streaks on outer margin between the tails.

In typical *rhagavata* the postmedial line of the fore wing is hardly angled, and the lunules on outer margin of hind wing extend nearly to anal angle; some specimens have dark blotches on the inner margin of both wings inside the postmedial lines.

Hab. Sikhim; Khásis; Ceylon. *Exp.* 28–32 millim.

3049. **Epiplema quadricaudata,** *Wlk. Cat.* xxiii, p. 847; *Moore, Lep. Ceyl.* iii, pl. 186, figs. 1, 1 *a*; *C. & S.* no. 3067.
Erosia varisaria, *Wlk. Cat.* xxiii, p. 848.

Pale brown; frons vinous. Wings with indistinct dark striæ.

Fore wing with some prominent dark striæ on the costa; an ochreous postmedial line excurved beyond the cell and angled at veins 6 and 4, and with a *prominent chocolate streak on it from* costa to vein 6 and blotch on inner margin; a chocolate marginal band *from apex to vein 3.* Hind wing with the postmedial line evenly waved; a lunulate submarginal band between the tails. Underside of hind wing whitish.

Hab. Assam; Canara; Ceylon; Burma; Andamans; Pulo Laut. *Exp.*, ♂ 24, ♀ 32 millim.

3050. **Epiplema tenebrosa,** *Hmpsn. Ill. Het.* ix, p. 137, pl. 157, fig. 3.

♀. Dark purple-grey. Fore wing with indistinct darker striæ; an indistinct medial excurved red-brown line; a similar slightly waved postmedial line; a submarginal blackish maculate line from below the apex to vein 4. Hind wing with a subbasal red-brown line produced outwards to a very acute angle at lower end of cell; a medial line excurved at middle nearly to the margin; a marginal lunulate band from the apex to the tail at vein 4, where there is a spot.

Hab. Pundaloya, Ceylon. *Exp.* 18 millim.

3051. **Epiplema obscuraria,** *Moore, Lep. Ceyl.* iii, p. 400, pl. 186, fig. 6; *C. & S.* no. 3063.

♀. Pale chestnut; head purplish grey. Fore wing slightly striated with brown; the base of costa purplish grey; an oblique medial red-brown streak from the costa to above a semicircular spot on inner margin; an obliquely curved line from the costa beyond the middle to outer angle; some submarginal dark specks below the apex. Hind wing slightly striated with brown; a white and chestnut streak from the base in lower part of cell to the lower angle, where it is joined to an acutely angled double line of fuscous, chestnut, and silvery-white scales; a postmedial chestnut line acutely angled outwards at vein 4, and from thence to inner margin outlined with white; a lunulate marginal line from the tail at vein 6 to vein 1.

Hab. Pundaloya, Ceylon. *Exp.* 22 millim.

3052. **Epiplema quadristrigata,** *Wlk. Cat.* xxxv, p. 1647.
Epiplema pulverea, *Hmpsn. Ill. Het.* ix, p. 137, pl. 157, fig. 4.

♂. Ochreous white; vertex of head and collar white; antennæ ochreous. Fore wing thickly striated and powdered with purplish black-brown; an indistinct highly angled medial black line and excurved slightly waved postmedial line; a series of submarginal black specks. Hind wing striated with red-brown, especially on inner area; a postmedial line slightly angled at vein 4; four submarginal black specks between the tails.

Hab. Ceylon; ? Mysol. *Exp.* 18 millim.

3053. **Epiplema conflictaria**, *Wlk. Cat.* xxiii, p. 851.
Erosia exprimataria, *Wlk. Cat.* xxiii, p. 851.
Erosia diffiniaria, *Wlk. Cat.* xxiii, p. 852.
Erosia secutaria, *Wlk. Cat.* xxxv, p. 1645.
Dirades parvula, *Moore, Lep. Ceyl.* iii, p. 402, pl. 186, fig. 5; *C. & S.* no. 3065.
Dirades lilacina, *Moore, Lep. Ceyl.* iii, p. 402, pl. 186, fig. 4; *C. & S.* no. 3061.

Pale purplish grey; head fuscous. Fore wing irrorated with brown; an indistinct slightly waved postmedial line with a fuscous or fuscous and ochreous blotch on it at inner margin and in some specimens another at lower angle of cell; a lunulate marginal dark band from the apex to vein 4. Hind wing with the inner half irrorated with brown; an ochreous fascia striated with brown from the base below median nervure to lower angle of cell, where it meets a band on the discocellulars; a waved postmedial line produced outwards to an angle at vein 4, where there is a leaden and chestnut patch beyond it and a chestnut patch inside it on vein 2; a brown and chestnut marginal lunulate band from veins 1 to 6. Underside of hind wing grey or whitish.

Hab. Sikhim; Nágas; Ceylon; Burma; Perak; Singapore; Sumatra; Java; Borneo; Ceram; Solomons. *Exp.* 18–29 millim.

3054. **Epiplema albida**, *Hmpsn. Ill. Het.* viii, p. 102, pl. 150, fig. 10.
Erosia lanigera, *Hmpsn. Ill. Het.* ix, p. 137, pl. 157, fig. 13.

♂. Pale violaceous grey; frons dark brown. Fore wing slightly irrorated with dark brown; indistinct red-brown ante- and postmedial excurved lines, the latter more or less indented and approaching the former below the cell; a submarginal series of red-brown specks below the apex. Hind wing more thickly irrorated with brown; the ante- and postmedial lines more prominent and angled outwards at vein 4, where there are rufous patches inside them; a submarginal lunulate line. Female more prominently irrorated with brown; fore wing with a complete marginal series of lunules; hind wing without the patches on the lines.

The form *lanigera* from Ceylon has the striæ darker; the ante- and postmedial lines of both wings nearer together and filled in with fuscous.

Hab. Nilgiris; Ceylon. *Exp.* 24 millim.

3055. **Epiplema ruptaria**, *Moore, Lep. Atk.* p. 259; *C. & S.* no. 3070.

White; palpi and frons marked with fuscous. Fore wing with fuscous striæ on the base of costa; very indistinct ante- and postmedial ochreous curved bands; a spot on costa towards apex and one at outer angle; a dark submarginal spot between veins 4 and 5; some ochreous striæ on the marginal area below the apex sometimes developed into a patch. Hind wing with indistinct

ochreous, subbasal, medial, and postmedial bands; a submarginal line between the tails.

Hab. Dharmsála; Calcutta. *Exp.*, ♂ 16, ♀ 18 millim.

3056. **Epiplema fulvilinea**, *Hmpsn. Ill. Het.* viii, p. 103, pl. 150, fig. 19.

Differs from *ruptaria* in being purer white. Fore wing with the ante- and postmedial bands composed of well-defined double lines connected in places; some black specks and ochreous striæ on the costa; no ochreous patches on costa and outer margin near apex; the submarginal speck black. Hind wing with the bands composed of double lines; the medial band highly angled outwards at vein 4; some submarginal dark striæ and ochreous spots.

Hab. Sikhim; Khásis; Shán States; Nilgiris. *Exp.* 20 millim.

3057. **Epiplema apicalis**, n. sp.

♂. White, slightly suffused with ochreous. Wings with traces of antemedial, medial, and postmedial bands. Fore wing with the apical area from the costa to vein 4 suffused with purplish fuscous and brown and with four black spots on it. Hind wing with a dark mark on the postmedial band; slight dark marginal markings between the tails and a black speck at the lower tail.

Hab. Sikhim; Nága Hills; Momeit, Burma (*Doherty*). *Exp.* 20 millim. Type in coll. Elwes.

3058. **Epiplema bicaudata**, *Moore, P. Z. S.* 1867, p. 643, pl. 33, fig. 12; *C. & S.* no. 3922.

White; antennæ annulated with brown; frons and palpi brown. Fore wing with some brown striæ below the costa; a series of antemedial spots; a postmedial chestnut band slightly angled at vein 4 and with three waved brown lines on it; the area beyond it suffused with brown, except at apex and outer angle; some submarginal indistinct brown spots. Hind wing similar; a black submarginal speck at vein 4.

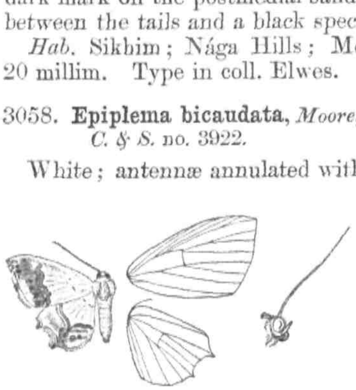

Fig. 71.—*Epiplema bicaudata*, ♂. $\frac{1}{1}$.

Hab. Dharmsála; Sikhim; Khásis. *Exp.* 26 millim.

3059. **Epiplema restricta**, n. sp.

♂. Differs from *bicaudata* in having slight dark striæ on the costa of fore wing; the fulvous postmedial band more irregular and the area beyond it almost wholly suffused with fuscous, and with the black submarginal spots more prominent; the postmedial band and markings beyond it all terminating at vein 3, leaving the area at outer angle white. Hind wing with the postmedial band more irregular, and the markings beyond it not continued on to the apical area.

Another form from Sikhim and the Nága Hills has the apical markings of the fore wing almost wholly obsolete.

Hab. Sikhim (*Möller*); Nágas (*Doherty*). *Exp.* 26 millim. Type in coll. Elwes.

3060. **Epiplema instabilata**, *Wlk. Cat.* xxxv, p. 1646.
Erosia insolita, *Wlk. Cat.* xxxv, p. 1648.
Dirades conchiferata, *Moore, Lep. Ceyl.* iii, p. 403, pl. 186, fig. 11; *C. & S.* no. 3053.

Head and collar fuscous; thorax and first segment of abdomen white, the other segments fuscous. Fore wing thickly speckled and striated with brown, fulvous, and black, the inner area white slightly marked with fulvous; a white spot at lower angle of cell; some black submarginal markings and spots on the cilia. Hind wing with the costal area white, the rest of the wing fulvous striated with black, the outline between the two areas very irregular; a leaden-grey marginal line from the tail at vein 7 to anal angle.

In some specimens the markings on the basal half of the costal area of the fore wing are much reduced.

Hab. China; Khásis; Bombay; Ceylon; E. Pegu; Pulo Laut; Sula; Mysol; Flores; Solomons. *Exp.* 24 millim.

3061. **Epiplema himala**, *Butl. A. M. N. H.* (5) vi, 1880, p. 221; *id. Ill. Het.* vi, pl. 112, fig. 9; *C. & S.* no. 3057.

♀. Pure white. Fore wing with outwardly-oblique black-brown antemedial and medial lines; a similar pale brown post-medial line; a fine submarginal line not reaching the costa or inner margin; some slight brown striæ on the costa; cilia brown. Hind wing with a subbasal black-brown line running towards anal angle, then recurved to inner margin; a yellow line from vein 6 to anal angle, expanding at middle into a patch reaching the outer margin; a brown line from the apex to yellow patch; a black-brown marginal line between the tails and prominent spot towards anal angle. Underside of fore wing with the basal, costal, and outer areas suffused with brown.

Hab. Sikhim; Khásis. *Exp.* 36 millim.

G. *Fore wing with the outer margin produced to points at veins* 2 *and* 6; *veins* 10, 11 *stalked,* 11 *anastomosing with* 12; *hind wing with the costa excised at middle and with a tuft of hair before middle; the outer margin produced to an oblique tail at vein* 4 *and to points at veins* 2 *and* 7.

3062. **Epiplema ocusta,** *Swinh. Trans. Ent. Soc.* 1894, p. 165.

Rufous, with darker striæ and irroration. Fore wing with highly excurved antemedial and postmedial lines expanding into small red-brown patches; a straight ochreous submarginal line with dark rufous on its outer edge; the area near outer angle purplish fuscous with two black spots. Hind wing with angled antemedial line, with rufous patches on its outer edge; a post-medial whitish line produced to a strong angle at vein 4 and with

rufous patches on its inner edge; an orange patch reticulated with brown on the margin between veins 4 and 7.

Hab. Sikhim; Khásis. *Exp.* 24 millim.

SECT. II. Male with antennæ serrated. Fore wing with outer margin slightly angled at vein 7. Hind wing with two tails.

3063. **Epiplema irrorata,** *Moore, Lep. Ceyl.* iii, p. 403, pl. 186, fig. 10; *C. & S.* no. 3059.

♂. Grey, thickly irrorated with pale and dark brown scales. Fore wing with indistinct antemedial, postmedial, and submarginal waved brown lines outwardly edged with ochreous; a maculate brown line just before the margin. Hind wing similar; a brown white-edged lunule at each tail.

Hab. Khásis; Nilgiris; Ceylon. *Exp.* 16 millim.

Genus DIRADES.

Dirades, *Wlk. Cat.* xxxv, p. 1650 (1866).

Type, *D. theclata*, Guen.

Range. W. Indies; Africa; China; throughout India, Ceylon, and Burma to Australia.

Palpi upturned, reaching vertex of head; antennæ thickened and flattened in male. Fore wing broad; the outer margin evenly curved; vein 5 from below the upper angle of cell; 6 and 7 stalked, 8 and 9 stalked; 10 from cell. Hind wing usually with the outer margin produced to points at veins 4 and 7, slightly developed in male; vein 5 from the middle of discocellulars; 6 and 7 from angle of cell or shortly stalked. Male with a fold on inner area containing a tuft of long hair, veins 1 *b* and 2 being distorted. Wings held more or less apart in repose.

SECT. I. Hind wing of male without tufts of hair on the costa.

A. *Hind wing of male with a slight tail at vein* 4 *only; veins* 2, 5, 6, 7, *the discocellulars, and upper margin of cell absent.*

3064. **Dirades unicauda,** *Hmpsn. Ill. Het.* viii, p. 103, pl. 150, fig. 21.

♂. Violaceous grey-brown. Wings irrorated with brown. Fore wing with the costal area suffused with fuscous; a large oval brown-outlined spot on inner margin; a series of marginal fuscous lunules. Hind wing with an angled indistinct antemedial rufous line; a curved postmedial, more prominent line and marginal lunulate line.

Hab. Sikhim; Nilgiris. *Exp.* 22 millim.

B. *Hind wing of male with slight tails at veins* 4 *and* 7, *and the venation normal.*

3065. **Dirades theclata,** *Guen. Phal.* ii, p. 36.
Dirades adjutaria, *Wlk. Cat.* xxiii, p. 849; *C. & S.* no. 3049.
Dirades binotata, *Wlk. Cat.* xxxv, p. 1650; *Moore, Lep. Ceyl.* iii, p. 399, pl. 186, fig. 7; *C. & S.* no. 3051.
Erosia verticaria, *Feld. Reis. Nov.* pl. 128, fig. 7.

♂. Antennæ and vertex of head whitish; head and thorax violaceous grey; abdomen ochreous, except at base. Fore wing violaceous grey; a large triangular patch outlined with double brown lines on the costa beyond the middle; a similar oval spot with darker centre on inner margin; a series of marginal fuscous lunules. Hind wing with the basal half violaceous grey, darkest at inner margin; the outer half pale ochreous brown, the two areas defined by a rufous and pale line; a series of marginal fuscous lunules.

Fig. 72.
Dirades theclata, ♂. 1/1.

♀. Abdomen and hind wing of the same violaceous grey as the ground-colour.

Hab. W. Africa; throughout India, Ceylon, and Burma. *Exp.* 22 millim.

SECT. II. Hind wing of male with two tufts of hair on the costa.

3066. **Dirades conifera,** *Moore, Lep. Ceyl.* iii, p. 399, pl. 186, fig. 8; *C. & S.* no. 3054.

♂. Differs from *theclata* in being more uniform red-brown irrorated with fuscous. Fore wing with the outline of the postmedial mark on the costa indistinct, incomplete, and its outer edge very oblique; the mark on inner margin larger. Hind wing with the medial curved line arising from the costa much nearer the apex; the marginal lunules of both wings reduced to a series of specks.

Hab. Ceylon. *Exp.* 24 millim.

3067. **Dirades leucocera,** *Hmpsn. Ill. Het.* viii, p. 102, pl. 150, fig. 13.

♂. Differs from *conifera* in the mark on inner margin of fore wing being filled in with black, with a plum-coloured centre; the leaden marginal band prominent and regular. Hind wing dark chocolate; the medial band plum-coloured, bounded by white lines; the marginal band irregular; the tuft in the fold on inner margin pure white.

♀. With the marginal band of both wings lunulate.

Hab. Nilgiris; Ceylon. *Exp.* 22 millim.

3068. **Dirades crepuscularis,** *Hmpsn. Ill. Het.* ix, p. 138, pl. 157, fig. 12.

♀. Purplish brown; antennæ and vertex of head white. Fore wing with traces of an angulated antemedial line; a nearly straight postmedial ferruginous line; a submarginal dark lunulate line, slightly edged with white towards apex. Hind wing with

an indistinct antemedial ferruginous curved line, with a white patch at inner margin; a more prominent postmedial line; a submarginal rufous and black line.

Hab. Ceylon. *Exp.* 20 millim.

3069. **Dirades prunaria**, *Moore, Lep. Ceyl.* iii, p. 400; *C. & S.* no. 3066.

♀. Dark purplish red-brown. Fore wing with large dark patches on the costa and inner margin, just beyond the middle, with ferruginous edges; a narrow nearly regular dark marginal band. Hind wing with a similar band from veins 2 to 7; the outer margin produced to a point at veins 7 and 4, and slightly at 6. Underside dark.

Hab. Ceylon. *Exp.* 20 millim.

Genus **GATHYNIA**.

Gathynia, *Wlk. Cat.* xxvi, p. 1639 (1862).

Type, *G. miraria*, Wlk.

Range. Kángra; Sikhim; Bombay; Nilgiris; Ceylon.

Palpi slender and obliquely porrect; antennæ thickened and flattened in both sexes. Fore wing broad, the outer margin evenly rounded; vein 5 from just above the middle of discocellulars; 6 and 7 from angle of cell or on a short stalk; 8 and 9 stalked; 10 and 11 stalked. Hind wing with the costa excised and bearing tufts of hair near the base and apex; outer margin produced to points at veins 6 and 4; vein 5 from the middle of discocellulars; 6 and 7 from angle of cell; 8 curved. Male with a fold on inner area containing a tuft of long hair, the internal veins being distorted.

The species repose in the form of a cross, with the fore wings rolled up at right angles to the body, the hind wings folded close against the body.

3070. **Gathynia miraria**, *Wlk. Cat.* xxvi, p. 1639; *C. & S.* no. 3072; *Moore, Lep. Ceyl.* iii, pl. 187, fig. 4.

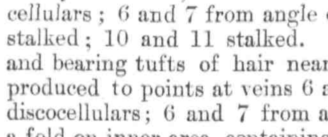

Fig. 73.
Gathynia miraria, ♂. 1/1.

Pale fuscous brown; fore wing with an ochreous subapical patch outwardly defined by a dark line. Hind wing with the folds on inner area and down the middle pale, so that the markings are confined to the costal and submedian areas, which are crossed by an indistinct antemedial line and well-defined brown, black, and pale postmedial line; a lunulate marginal line.

Hab. Sikhim; Bombay; Nilgiris; Ceylon. *Exp.*, ♂ 28, ♀ 30 millim.

3071. **Gathynia simulans,** *Butl. Ill. Het.* vii, p. 81, pl. 133, figs. 6, 7.

Pale reddish brown, irrorated with fuscous. Fore wing with an indistinct rufous angulated antemedial line and doubly curved postmedial line; a rufous apical patch and dark marginal line. Hind wing with a rufous medial line and dark marginal line.

Hab. Kángra. *Exp.*, ♂ 24, ♀ 28 millim.

3072. **Gathynia ferrugata,** *Wlk. Cat.* xxxv, p. 1651; *Hmpsn. Ill. Het.* ix, pl. 157, fig. 7; *C. & S.* no. 3055.

♂. Antennæ rufous; thorax purplish brown; abdomen pale. Fore wing purplish fuscous, with traces of antemedial and submarginal lines; a ferruginous streak in and beyond the end of cell; a ferruginous apical patch. Hind wing deep purplish brown; the fold on inner area pale; a ferruginous and ochreous patch from the base to lower angle of cell; ferruginous ante- and postmedial angulated lines; some dark marginal specks. Underside of hind wing pale.

Hab. Ceylon. *Exp.* 24 millim.

3073. **Gathynia longipennis,** *Hmpsn. Ill. Het.* viii, p. 103, pl. 150, fig. 20.

♀. Fore wing with the inner margin excised; the stalk of veins 6 and 7 longer. Hind wing with the point at vein 6 longer. Uniform dull purplish fuscous, irrorated with darker specks; both wings with traces of a dark postmedial band and indistinct marginal lunulate line.

Hab. Nilgiris. *Exp.* 26 millim.

Genus **METORTHOCHILUS.**

Metorthocheilus, *Hmpsn. Ill. Het.* ix, p. 138 (1893).

Type, *M. emarginatum*, Hmpsn.

Range. Nágas; Nilgiris; Ceylon.

Palpi porrect and very minute; antennæ thickened and flattened in the male. Fore wing with the outer margin excised below the apex; vein 5 from the middle of the discocellulars; 6 and 7 on a long stalk; 8 and 9 stalked; 10 from cell. Hind wing with vein 5 from the middle of discocellulars; 6 and 7 on a long stalk.

Sect. I. Fore wing with vein 11 given off from 10 and anastomosing with 12. Hind wing with the costa excised; the outer margin produced to a point at vein 7, then straight to anal angle.

3074. **Metorthochilus emarginatum,** *Hmpsn. Ill. Het.* viii, p. 113 pl. 151, fig. 14.

♂. Pale violaceous brown; wings irrorated with dark scales. Fore wing with traces of curved antemedial and submarginal series

of specks; a curved series of small dark postmedial lunules; a ferruginous patch on outer margin at the excision; cilia white variegated with brown. Hind wing similar; the series of specks straighter; no ferruginous patch on outer margin.

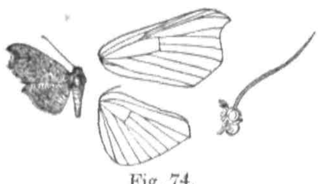
Fig. 74.
Metorthochilus emarginatum, ♂. ½.

♀. With a fuscous diffused patch on fore wing beyond the cell. Underside of hind wing with the basal area whitish.

Hab. Nágas; Nilgiris; Ceylon. *Exp.*, ♂ 22, ♀ 24 millim.

SECT. II. Fore wing with vein 11 from cell and anastomosing with 12. Hind wing with the costa not excised, the outer margin highly angled at vein 4.

3075. **Metorthochilus excisum**, *Hmpsn. Ill. Het.* viii, p. 114, pl. 151, fig. 13.

Purplish grey, striated with fuscous; both wings with indistinct postmedial and marginal rufous lines, the former curved.

Hab. Nilgiris. *Exp.* 20 millim.

Genus **ATOSSA**.

Atossa, *Moore, P. Z. S.* 1874, p. 577.

Type, *A. nelcinna*, Moore.

Range. N.W. Himalayas; Nága Hills.

Antennæ bipectinate, with short ciliated branches in the male. Palpi short and porrect. Fore wing with the apex produced; vein 3 before end of the cell; 5 from the middle of the discocellulars; 6 from the upper angle; 7 either stalked with 6 or from the angle; 8, 9, 10 stalked, or 10 absent; a forked fold in the cell, and fold in interno-median interspace. Hind wing with the apex produced beyond the outer angle of fore wing; vein 3 before end of the cell; 5 from the middle of the discocellulars; 7 from before the upper angle of cell.

SECT. I. Veins 6 and 7 of the fore wing stalked.

3076. **Atossa nelcinna**, *Moore, P. Z. S.* 1874, p. 577, pl. 67, fig. 7; *Elwes, P. Z. S.* 1890, pl. 34, fig. 1; *C. & S.* no. 457.

♂. Antennæ, head, and thorax black; abdomen orange, with the vertex black. Fore wing fuscous; the basal half with pale streaks in the interspaces; the outer half with two series of rounded spots; the two spots between veins 5 to 7 of the postmedial series placed out of line towards the margin. Hind wing similar to the fore wing; the pale streaks of the basal half larger;

the postmedial series of spots with the spot between veins 5 and 6 only out of line.

Hab. N.W. Himalayas. *Exp.* 82 millim.

SECT. II. Vein 7 of the fore wing from angle of cell.

3077. **Atossa moorei**, *Elwes, P. Z. S.* 1890, p. 382, pl. 34, fig. 2.

Differs from *nelcinna* in the collar, edges of patagia, and metathorax being orange; the abdomen banded orange and black. Fore wing yellowish white; the veins and folds whence the veinlet in the cell and vein 1 *c* have disappeared black; a broad irregular medial fuscous band; outer area fuscous, with an almost

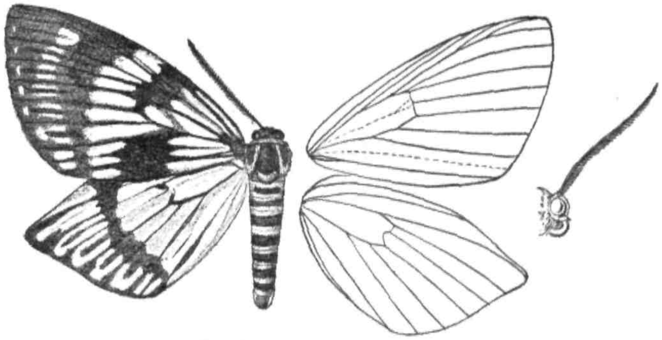

Fig. 75.—*Atossa moorei*, ♂. ½.

obsolete series of lunulate submarginal pale spots in the interspaces. Hind wing yellowish white, with the veins dark; a submarginal series of black spots, sometimes joined into an irregular band; outer margin fuscous.

Hab. Nágas. *Exp.*, ♂ 86, ♀ 82–90 millim.

SECT. III. Vein 10 of the fore wing absent.

3078. **Atossa nagaensis**, *Elwes, P. Z. S.* 1890, p. 382, pl. 34, fig. 3.

♂. Differs from *moorei* in the fore wing being entirely pale fuscous, except for some short pale streaks at the base; an almost obsolete series of postmedial spots, and a prominent conjoined series of submarginal lunulate spots. Hind wing with the submarginal series of dark spots almost entirely obsolete.

This may prove to be a variety of *moorei*.

Hab. Nágas. *Exp.* 86 millim.

Species formerly recorded as Indian which is omitted.

Erosia figuraria, Wlk. Cat. xxiii, p. 850; C. & S. no. 3056. Type lost; description not recognizable.

Family GEOMETRIDÆ.

A large family of moths, almost always of slender build, and of semidiurnal or crepuscular habits, dominant at the present day. Proboscis present or rarely absent. Legs and tarsi slender, elongate, and naked, or slightly clothed with hair. Fore wing with vein 1 *a* forming a fork with 1 *b*, 1 *c* absent; vein 5 from or from above middle of the discocellulars, 7 rising from 8, 9 *. Hind wing with the frenulum usually present, but absent in a few genera;

Fig. 76.—Larva of *Abraxas leucostola*. 1/1.
(From Hmpsn. Ill. Het. ix, pl. 176, fig. 19.)

vein 1 *a* very short, apparently absent in some forms; vein 1 *b* running to anal angle; 1 *c* absent; 8 with a well-developed precostal spur.

Larvæ with the three anterior pairs of abdominal claspers totally aborted, and progressing by bringing the posterior somites close to the thoracic, looping the medial somites. In a few ancestral forms, of the subfamily *Œnochrominæ* especially, there is a tendency to develop additional prolegs and to a more ordinary mode of progression.

Key to the Subfamilies.

A. Hind wing with vein 5 obsolete, and with no production of the outer margin at the termination of the fold that represents it †. 1. *Boarmiinæ.*
B. Hind wing with vein 5 fully developed ‡.
  a. Hind wing with vein 5 rising much nearer 6 than 4 .... 6. *Geometrinæ.*
  b. Hind wing with vein 5 from or from below middle of discocellulars §.
    a'. Hind wing with vein 8 connected with 7 by an oblique bar near base ...... 3. *Orthostixinæ.*
    b'. Hind wing with vein 8 anastomosing with 7 at base, then rapidly diverging. 5. *Acidaliinæ.*
    c'. Hind wing with vein 8 free and approximated to 7 to near middle of cell .. 2. *Œnochrominæ.*
    d'. Hind wing with vein 8 anastomosing with 7 to beyond middle of cell, or connected with it by a bar beyond middle of cell .... 4. *Larentiinæ.*

* Except in *Cataclysma.*
† Except in *Boarmia isometra.*
‡ Except in *Microloba*, ♂.
§ Except in *Sarcinodes* and *Alex.*

Subfamily BOARMIINÆ.

Hind wing with vein 5 obsolete *, with no production of the outer margin at the termination of the fold that represents it, and veins 6 and 4 considerably approximated; vein 8 free and running close along 7 to about middle of cell, very rarely anastomosing with it.

In this subfamily a fovea or pit of hyaline membrane on the underside of the fore wing at the base of vein 1, probably acting as a tympanum, is developed in very many species in the males, a character hardly found in any other group of Lepidoptera. Another very characteristic structure is the dilatation of the hind tibiæ in the male, with a fold containing a tuft of long hair acting as a scent-organ.

Key to the Genera.

A. Hind wing with a tail at vein 4, palpi porrect and hairy; a frontal tuft.
- *a*. Fore wing with vein 10 absent .... 1. URAPTERYX, [p. 144.
- *b*. Fore wing with vein 10 present.
  - *a'*. Hind wing with veins 6, 7 stalked; the tail short .... 2. SIRINOPTERYX, [p. 147.
  - *b'*. Hind wing with veins 6, 7 from the cell.
    - a^2. Fore wing with veins 10 and 11 stalked and anastomosing with 12 .... 3. THINOPTERYX, [p. 148.
    - b^2. Fore wing with vein 11 given off from 12 and anastomosing with 10, which is stalked with 8, 9 .... 4. XEROPTERYX, [p. 149.

B. Hind wing not tailed.
- *a*. The scaling smooth; the head, thorax, and abdomen smooth or moderately hairy.
  - *a'*. Palpi upturned, reaching above vertex of head and fringed with hair in front ...... 5. PAREUMELEA, [p. 150.
  - *b'*. Palpi upturned, slender, and smoothly scaled.
    - a^2. Hind wing with vein 8 not anastomosing with the cell; fore wing with the costa excised towards apex, which is falcate .. 6. AUZEODES, p. 150.
    - b^2. Hind wing with vein 8 anastomosing with the cell .... 11. APLOCHLORA, [p. 156.
  - *c'*. Palpi porrect, not reaching beyond the frons, and clothed with short hair.
    - a^2. Fore wing with veins 10 and 11 stalked and anastomosing with 12.
      - a^3. Hind wing with vein 7 from angle of cell.
        - a^4. Fore wing with vein 5 from the middle of discocellulars .... 7. MYRTETA, p. 151.
        - b^4. Fore wing with vein 5 from near upper angle of cell; antennæ of ♂ thickened and flattened .... 10. PLATYCEROTA, [p. 155.
      - b^3. Hind wing with vein 7 from before angle of cell .... 15. SCARDAMIA, [p. 163.
    - b^2. Fore wing with veins 10 and 11 not stalked.
      - a^3. Fore wing with veins 7, 8, 9, 10 stalked.
        - a^4. Fore wing with vein 11 free.

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* Except in *Boarmia isometra*.

a^5. *Antennæ not unipectinate.*
a^6. Fore wing with vein 5 from the middle of discocellulars.
a^7. Fore and hind wings with vein 3 from the angle of cell .... 8. TASTA, p. 153.
b^7. Fore and hind wings with vein 3 from before angle of cell.......... 13. CABERODES, [p. 158.
b^6. Fore wing with veins 5, 6 stalked; ♂ with fovea .... 16. PERATOPHYGA, [p. 164.
b^5. Antennæ unipectinate in both sexes .. 14. PLUTODES, [p. 160.
b^4. Fore wing with vein 11 anastomosing with 12, arising from 8, 9, 10, or from cell .... 9. BAPTA, p. 154.
b^3. Fore wing with veins 7, 8, 9 stalked, 10 absent.
a^4. Wings clothed with scales and hair; ♂ with or without fovea .... 17. STEGANIA, p. 164.
b^4. Wings mostly hyaline .... 39. ZAMARADA, [p. 198.
d'. Palpi clothed with much longer hair, porrect, and usually reaching well beyond the frons.
a^2. Frenulum present.
a^3. Fore wing with the apex not highly falcate.
a^4. Wings with the outer margin not angled at vein 4.
a^5. Fore wing with the inner margin, hind wing with the costa evenly curved.
a^6. Fore wing with the apex not produced, the outer margin suberect.
a^7. Fore wing of normal breadth.
a^8. Fore wing with veins 7, 8, 9, 10 stalked.
a^9. Fore wing with vein 11 anastomosing with 12 .... 31. PEETULA, p. 188.
b^9. Fore wing with vein 11 free .... 32. XENOGRAPHIA, [p. 189.
b^8. Fore wing with veins 10, 11 stalked, or from cell.
a^9. Fore and hind wings with vein 3 from before angle of cell.
a^{10}. Fore wing with the outer margin evenly curved.
a^{11}. Fore wing with vein 11 anastomosing with 12, then with 10.
a^{12}. Fore wing with veins 10, 11 not connected with 8, 9 by a bar; antennæ of ♂ bipectinate. 51. CROCOTA, p. 220.
b^{12}. Fore wing with veins 10, 11 connected with 8, 9 by a bar; ♂ with fovea; antennæ with two pairs of serrations ...... 73. DILOPHODES, [p. 305.
b^{11}. Fore wing with vein 11 becoming coincident with 12.. 72. ABRAXAS, p. 297.
b^{10}. Fore wing with the outer margin excised below apex .... 24. VENILIA, p. 180.
b^9. Fore and hind wings with vein 3 from angle of cell.............. 29. ILICRINIA, p. 186.

c^8. Fore wing with veins 10, 11 stalked and arising from 7, 8, 9 .... 30. EURYTAPHRIA, [p. 187.
d^8. Fore wing with veins 7, 8, 9 stalked, 10 absent.
a^9. Palpi slender; hind wing with vein 7 from angle of cell; ♂ with fovea.
a^{10}. Wings with vein 3 from before angle of cell; antennæ of ♂ thickened and serrate .... 27. RUMIA, p. 183.
b^{10}. Wings with vein 3 from angle of cell .... 43. TEPHRINA, p. 209.
b^9. Palpi much stouter; hind wing with vein 7 from before angle of cell .... 79. MILIONIA, p. 312.
b^7. Fore wing long and narrow.
a^8. Abdomen short and not reaching far beyond the hind wing.
a^9. Head clothed with long hair; fore wing with vein 5 from middle of discocellulars .... 74. ONELLABA, p. 306.
b^9. Head smoothly scaled; fore wing with vein 5 from above middle of discocellulars; ♂ with fovea.... 75. PERCNIA, p. 306.
b^8. Abdomen very long and slender.
a^9. Antennæ not dilated at extremity, but thickened by appressed serrations in ♂ .... 76. OBEIDIA, p. 309.
b^9. Antennæ long and dilated at extremity .... 77. VITHORA, p. 310.
b^6. Fore wing with the apex produced, the outer margin very oblique.
a^7. Fore wing with vein 10 present.
a^8. Fore wing with vein 11 connected by a bar with 12, and stalked with 10; antennæ bipectinated in both sexes .... 19. HYPOCHROSIS *, [p. 170.
b^8. Fore wing with vein 11 not connected by a bar with 12.
a^9. Both wings with vein 3 from angle of cell; fore wing with vein 11 anastomosing with 12.
a^{10}. Fore wing with veins 7, 8, 9 from before angle of cell; antennæ bipectinated in both sexes. 20. PRIONIA, p. 174.
b^{10}. Fore wing with veins 7, 8, 9 from angle of cell; antennæ simple in ♀ .... 21. EURYMENE, [p. 177.
b^9. Both wings with vein 3 from before angle of cell.
a^{10}. Fore wing with vein 5 from the middle of discocellulars.
a^{11}. Large stoutly built moths; ♂ with fovea .... 59. DALIMA, p. 237.

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* In *H. pulchraria* the palpi are upturned and reach vertex of head.

a^3. Fore wing with apex produced; hind wing with the outer margin produced at vein 4 .... 60. AMBLYCHIA, [p. 241.

b^3. Fore wing with the apex, hind wing with the outer margin rounded ...... 63. ELPHOS, p. 249.

b^2. Fore wing with vein 11 given off from 12 . 61. CHORODNA, [p. 243.

b'. Palpi porrect.

a^2. Wings broad, the outer margin of fore wing suberect.

a^3. Fore wing with veins 7, 8, 9, 10 stalked, 11 free; the apex rounded; ♂ with fovea; the cilia non-crenulate .... 64. XANDRAMES, [p. 250.

b^3. Fore wing with veins 10 and 11 from the cell or stalked; the cilia crenulate.

a^4. Fore wing with the costa not arched at base; the apex quadrate; ♂ with no fovea .... 65. GNOPHUS, p. 251.

b^4. Fore wing with the costa arched at base; the apex rounded; ♂ with fovea .... 66. BYLAZORA, p. 253.

c^3. Fore wing with vein 10 free; 11 from 12; the apex rounded; the cilia non-crenulate .... 67. OPHTHALMODES, [p. 255.

b^2. Wings narrower; fore wing with the apex more produced and the outer margin oblique.

a^3. Hind wing with the cell extending to two-thirds length of wing; palpi short .... 62. BISTON, p. 245.

b^3. Hind wing with the cell normal, about half the length of wing; palpi longer.

a^4. Hind wing with the outer margin rounded.

a^5. Fore wing with vein 11 not given off from 12.

a^6. Wings with the outer margin crenulate .... 68. BOARMIA, p. 256.

b^6. Wings with the outer margin non-crenulate; vein 11 free; ♂ with fovea. 70. ARICHANNA, [p. 290.

b^5. Fore wing with vein 11 given off from 12 .... 69. MEDASINA, [p. 283.

b^4. Hind wing with the outer margin irregular, and more or less produced or angled at veins 4 and 7 .... 71. EREBOMORPHA, [p. 295.

Genus **URAPTERYX**.

Urapteryx, *Leach*, *Zool. Misc.* i, p. 79 (1814).

Type, *U. sambucaria*, Linn., from Europe.

Range. Palæarctic and Oriental regions.

Antennæ simple and somewhat thickened and flattened; palpi short and porrect, meeting a slight frontal tuft. Fore wing arched towards apex, which is somewhat produced and acute; vein 3 from angle of cell; 7, 8, 9 stalked from upper angle; 10 absent; 11 anastomosing with 12. Hind wing with vein 3 from angle of cell.

SECT. I. Outer margin of hind wing with a long tail at vein 4 and angulation at vein 6.

3079. **Urapteryx primularis,** *Butl. Ill. Het.* vi, p. 49, pl. 113, fig. 4; *C. & S.* no. 3109.

♂. Bright primrose-yellow; palpi, frons, and antennæ rufous; abdomen white. Fore wing with the costa whitish, and with numerous fuscous striæ from it; ante- and postmedial nearly straight, outwardly-oblique, fulvous bands; a medial band from costa to lower angle of cell with some orange on it; some fuscous striæ on submarginal area; a dark marginal line; the cilia orange. Hind wing with a fulvous band from upper angle of cell to near anal angle, where it is joined by a submarginal band of fuscous striæ and numerous striæ on the inner area; a black and fuscous blotch below the tail and two at its base, the upper one with an orange spot on it; a dark marginal line; the cilia orange, except at veins 4 and 6.

Hab. Nepal; Sikhim; Khásis. *Exp.* 80 millim.

3080. **Urapteryx sciticaudaria,** *Wlk. Cat.* xxvi, p. 1480; *Butl. Ill. Het.* vi, pl. 113, fig. 5; *C. & S.* no. 3107 (part.).

♂. Differs from *primularis* in being paler and more ochreous yellow. Fore wing with the bands narrower; the submarginal striæ tending to coalesce into a band. Hind wing with the band narrower; the submarginal striæ and those on inner area obsolescent; the dark blotch below the tail absent.

Hab. Sikhim; Khásis. *Exp.* 60 millim.

3081. **Urapteryx marginata,** *Hmpsn. Ill. Het.* viii, p. 104, pl. 150, fig. 17.

Differs from *sciticaudaria* in being paler; palpi and frons pale rufous. Fore wing with the bands narrower and more erect; the submarginal striæ diffused; the marginal line black; the cilia fuscous. Hind wing with the spots below veins 3 and 4 deep black; the marginal line scarlet from apex to above tail and towards anal angle; the cilia fuscous.

Hab. Nilgiris; Shevaroys. *Exp.* 58 millim.

3082. **Urapteryx ebuleata,** *Guen. Phal.* i, p. 32; *C. & S.* no. 3102.
Urapteryx kantalaria, *Feld. Reis. Nov.* pl. 122, fig. 3.
Urapteryx multistrigaria, *Wlk. Cat.* xxxv, p. 1535; *C. & S* no. 3106.
Urapteryx yerburii, *Butl. P. Z. S.* 1886, p. 388; *C. & S.* no. 3111

♂. Differs from *sciticaudaria* in being paler; the palpi and frons pale. Wings nearly uniformly striated with fuscous; fore wing without dark striæ on costa.

♀. White.

Hab. N.W. Himalayas; Sikhim; Khásis; Shillong. *Exp.*, ♂ 60–68, ♀ 60–84 millim.

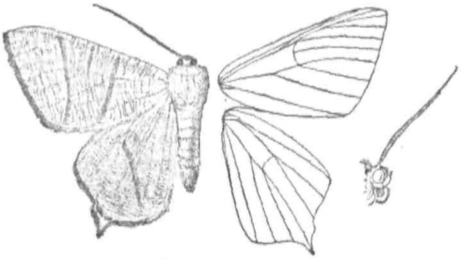

Fig. 77.—*Urapteryx ebuleata*, ♂. ½.

3083. **Urapteryx picticaudata**, *Wlk. Cat.* xx, p. 12; *C. & S.* no. 3107.
Urapteryx clara, *Butl. A. M. N. H.* (5) vi, p. 120; *id. Ill. Het.* iv, pl. 113, fig. 6; *C. & S.* no. 3103.

♂. Differs from *sciticaudaria* in being almost white. Fore wing with the striæ more evenly disposed; the ante- and postmedial lines often approaching each other towards inner margin; the cilia redder. Hind wing with the cilia much redder.

Hab. Simla; Sikhim; Nágas; Khásis; Borneo. *Exp.* 58 millim.

3084. **Urapteryx podaliriata**, *Guen. Phal.* i, p. 32; *C. & S.* no. 3108.

Differs from *picticaudata* in the palpi and frons being white. Fore wing with the antemedial line nearer the base. Hind wing with the band from upper angle of cell running along vein 3 and joined to a prominent submarginal band; the base of tail, which is very long, striated with fuscous; the upper spot very prominent and red; the marginal line on each side of tail black.

Hab. Sikhim; Moulmein; Tenasserim; Singapore; Java; Borneo. *Exp.*, ♂ 60, ♀ 70 millim.

SECT. II. Hind wing with the tail very short.

3085. **Urapteryx pluristrigata**, *Warr. P. Z. S.* 1888, p. 318; *C. & S.* no. 3108 A.

Differs from *picticaudata* in being pure white; the palpi and frons white. Fore wing evenly striated with pale fuscous; the bands and cilia pale fuscous. Hind wing with the cilia faintly tinged with rufous.

Hab. Thundiáni, Punjab. *Exp.* 54 millim.

3086. **Urapteryx margaritata**, *Moore, P. Z. S.* 1867, p. 612; *Waterh. Aid*, ii, pl. 184, fig. 1; *C. & S.* no. 3105.

♂. Differs from *pluristrigata* in being much less striated with fuscous. Fore wing with narrow oblique medial and postmedial red lines. Hind wing with the bent line narrow and red; the upper spot on tail large and crimson; both wings with the cilia red.

Hab. Sikhim. *Exp.* 50 millim.

SECT. III. Outer margin of hind wing with scarcely a trace of angulation at vein 6 and only a short pointed tail at vein 4.

3087. **Urapteryx excellens**, *Butl. Ill. Het.* vii, p. 99, pl. 135, fig. 13.

♀. Differs from *primularis* in being paler and more ochreous; palpi and frons whitish. Fore wing with the bands fuscous, the antemedial band more oblique and joined by a fuscous streak from base on vein 1; the margins and cilia fuscous. Hind wing with a curved postmedial fuscous band showing through from underside, and running from the costa to near anal angle, where it is joined by a line from the base along vein 1 and an oblique line from above vein 4; the areas at anal angle and towards apex irrorated with dark specks; the submarginal area orange-yellow; an almost marginal series of black lunules; the cilia fuscous. Underside with the markings stronger than on upperside.

Hab. Kashmir. *Exp.* 51 millim.

Genus SIRINOPTERYX.

Sirinopteryx, *Butl. Journ. Linn. Soc.* xvii, p. 201 (1883).

Type, *S. rufivinctata*, Wlk.

Range. Sikhim; Khásis; Nágas.

Differs from *Urapteryx* in the fore wing having vein 3 from before angle of cell; 10 present, arising from the cell, anastomosing with 11, and then with 8 and 9, thus forming a double areole. Hind wing with the outer margin produced to a point at vein 4; vein 3 from just before angle of cell; 6 and 7 on a short stalk. Hind tibiæ hardly thickened.

3088. **Sirinopteryx rufivinctata**, *Wlk. Cat.* xxvi, p. 1747; *C. & S.* no. 3113.

Urapteryx quadripunctata, *Moore, P. Z. S.* 1867, p. 613; *C. & S.* no. 3110.

Sirinopteryx rufilineata, *Warr. P. Z. S.* 1893, p. 385.

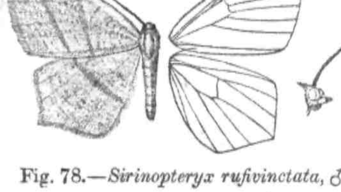

Fig. 78.—*Sirinopteryx rufivinctata*, ♂. ½.

Bright sulphur-yellow; palpi, frons, and antennæ marked with pale rufous; wings irrorated with small fuscous spots. Fore wing with oblique pale rufous medial and postmedial lines; the costa and cilia rufous. Hind wing with slightly curved medial rufous line; the cilia rufous.

The form *quadripunctata* has rufous spots at end of cell of each wing; the oblique lines obsolescent; the postmedial line waved.

Hab. Sikhim; Khásis; Nágas. *Exp.* 44–50 millim.

3089. **Sirinopteryx undulifera,** *Warr. P. Z. S.* 1893, p. 385.

Differs from *rufivinctata* in being ochreous; the lines more oblique; the postmedial line of fore wing waved and arising from apex; a speck at end of cell of each wing.

Hab. Sikhim. *Exp.* 50 millim.

Genus THINOPTERYX.

Thinopteryx, *Butl. Journ. Linn. Soc.* xvii, p. 202 (1883).

Type, *T. crocoptera*, Koll.

Range. Japan; China; throughout India and Ceylon; Andamans; Java.

Differs from *Urapteryx* in the antennæ of the male being fasciculated; the palpi slightly longer. Fore wing with the apex more produced; vein 3 from before angle of cell; 7, 8, 9 from before upper angle; 10 present and given off from 11 after its anastomosis with 12. Hind wing with the outer margin angled below apex, and tailed at vein 4; vein 3 from before angle of cell.

3090. **Thinopteryx crocoptera,** *Koll. Hügel's Kaschmir*, iv, p. 483; *C. & S.* no. 3114.

Thinopteryx nebulosa, *Butl. Journ. Linn. Soc.* xvii, p. 203, *id. Ill. Het.* vi, pl. 113, fig. 8; *C. & S.* no. 3115.

Thinopteryx striolata, *Butl. Journ. Linn. Soc.* xvii, p. 202.

Urapteryx prætoraria, *Feld. Reis. Nov.* pl. 122, fig. 13; *C. & S.* no. 3116.

Thinopteryx citrina, *Warr. Nov. Zool.* p. 401.

Orange-yellow; head and collar white, irrorated with fuscous; wings with numerous orange strigæ more or less combined into patches. Fore wing with the costa white, irrorated with fuscous;

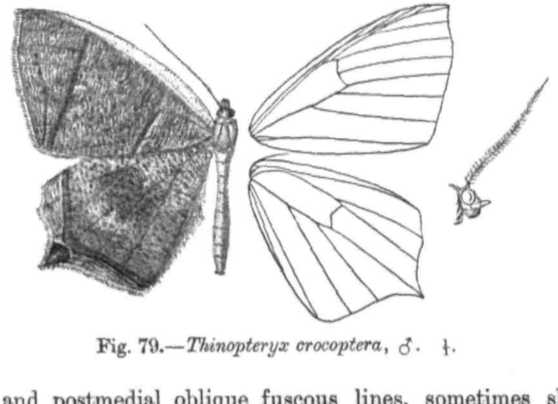

Fig. 79.—*Thinopteryx crocoptera*, ♂. ½.

ante- and postmedial oblique fuscous lines, sometimes slightly curved; a fuscous line on discocellulars; a submarginal more or less lunulate line, often reduced to a series of specks towards costa.

Hind wing with a fuscous line on discocellulars; a double submarginal line angled at base of tail; a patch of fuscous on tail.

Dark blotches are often present at end of cell of both wings: *prætoraria*, from Sylhet, is yellower, and thickly irrorated with fuscous striæ; whilst in *nebulosa* almost the whole of the wings, as far as the submarginal line, is suffused with fuscous brown. The Japan form *striolata* is thickly irrorated with fuscous and orange striæ; and another form has prominent orange striæ and fuscous patches.

Hab. Japan: China; throughout India and Ceylon; Andamans; Java. *Exp.* 70–80 millim.

Genus **XEROPTERYX.**

Xeropteryx, *Butl. Journ. Linn. Soc.* xvii, p. 203 (1883).

Type, *X. columbicola*, Wlk.

Range. Sikhim; Khásis; Sumatra; Borneo.

Differs from *Urapteryx* in the palpi being slightly longer; antennæ of male ciliated; hind tibiæ with a tuft of long hair from base on the outer side. Fore wing with vein 3 from before angle of cell; 7, 8, 9, 10 stalked from before angle of cell; 10 anastomosing with 11, which is given off from 12. Hind wing with the outer margin tailed at vein 4; vein 3 from before angle of cell.

3091. **Xeropteryx columbicola,** *Wlk. Cat.* xx, p. 11; *C. & S.* no. 3112.
Xeropteryx simplicior, *Butl. Journ. Linn. Soc.* xvii, p. 204.

Pale brown; the wings thickly striated with pale fuscous. Fore wing with a submarginal yellowish hyaline spot on vein 5 and large crescent-shaped patch below it; the cilia whitish. Hind wing

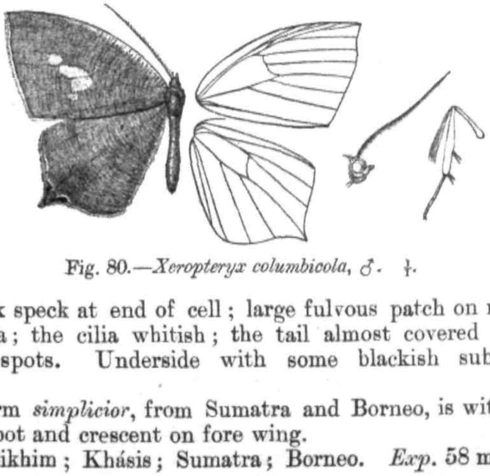

Fig. 80.—*Xeropteryx columbicola*, ♂. ½.

with black speck at end of cell; large fulvous patch on middle of outer area; the cilia whitish; the tail almost covered by three blackish spots. Underside with some blackish submarginal patches.

The form *simplicior*, from Sumatra and Borneo, is without the hyaline spot and crescent on fore wing.

Hab. Sikhim; Khásis; Sumatra; Borneo. *Exp.* 58 millim.

Genus PAREUMELEA.

Pareumelea, *Warr. Nov. Zool.* p. 401 (1894).

Type, *P. fimbriata*, Cram.
Range. Burma; Andamans; Malacca; Singapore; Sumatra; Borneo.

Palpi upturned, reaching just above vertex of head; antennæ of male serrate and fasciculate; hind tibiæ dilated. Fore wing with the outer margin angled at vein 5, then oblique to outer angle; vein 3 from just before angle of cell; 7, 8, 9 stalked from before upper angle; 10 from cell and anastomosing with 11, which is given off from 12. Hind wing with the outer margin crenulate from apex to vein 4, where it is produced to a slight point; vein 3 from before angle of cell, 6, 7 from upper angle.

3092. **Pareumelea fimbriata,** *Cram. Pap. Exot.* iv, p. 236, pl. 398, fig. N; *C. & S.* no. 3541.
Eumelea eugeniata, *Guen. Phal.* i, p. 394.
Eumelia flagrata, *Feld. Reis. Nov.* pl. 127, fig. 39; *C. & S.* no. 3542.

♂. Yellowish, suffused with brown; wings thickly irrorated with brown. Fore wing with the costal half much suffused with brown; an oblique antemedial brown line below the cell; a dark speck at end of cell; a yellow spot on vein 4, and ill-defined spots below apex and at outer angle. Hind wing with a dark speck at end of cell; traces of a curved postmedial line; a lunulate submarginal line, with the area beyond it yellower.

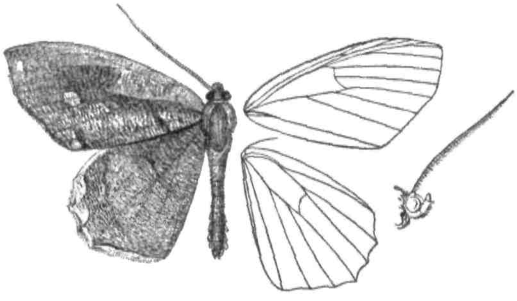

Fig. 81.—*Pareumelea fimbriata*, ♂. 1/1.

Hab. Moulmein; Andamans; Malacca; Singapore; Sumatra; Borneo. *Exp.* 60 millim.

Genus AUZEODES.

Auzeodes, *Warr. P. Z. S.* 1893, p. 404.

Type, *A. nigroseriata*, Warr.
Range. Burma.

Palpi slender, smooth, and reaching beyond the frons; antennæ of male simple. Fore wing with the costa excised beyond the middle, the apex arched and falcate; the outer margin excised below apex, then excurved; vein 3 before angle of cell; 7, 8, 9 stalked before upper angle; 10 absent; 11 free. Hind wing with the inner margin long; vein 3 before angle of cell.

3093. **Auzeodes nigroseriata**, *Warr. P. Z. S.* 1893, p. 405.

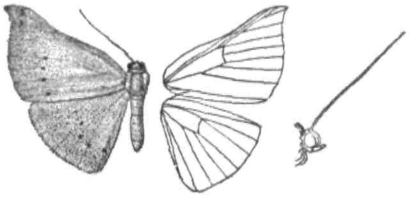

Fig. 82.—*Auzeodes nigroseriata*, ♂. 1/1.

♂. Rufous, irrorated with silvery scales: the head chocolate; a postmedial series of black spots from vein 4 to inner margin of each wing; fore wing with a black mark on costa before apex. Underside vinous, suffused with fuscous.

Hab. E. Pegu. *Exp.* 42 millim.

Genus MYRTETA.

Myrteta, *Wlk. Cat.* xxiii, p. 831 (1861).
Micronidia, *Moore, Lep. Atk.* p. 258 (1887).
Orthocabera, *Butl. A. M. N. H.* (5) iv, p. 439 (1879).
Microniodes, *Hmpsn. Ill. Het.* ix, p. 139 (1893).

Type, *M. planaria*, Wlk.
Range. Japan; Sikhim; Khásis; Ceylon; Borneo.

Palpi slender and porrect, not reaching beyond frons. Fore wing with vein 3 from just before angle of cell; 7, 8, 9 stalked from just before upper angle; 10 and 11 stalked and anastomosing with 12. Hind wing with vein 8 from before angle of cell.

SECT. I. Antennæ of male bipectinated, the branches short; hind tibiæ dilated.

A. (Myrteta). *Hind wing with the outer margin rounded.*

3094. **Myrteta planaria**, *Wlk. Cat.* xxiii, p. 831; *Butl. Ill. Het.* vi, pl. 118, fig. 9; *C. & S.* no. 4027.

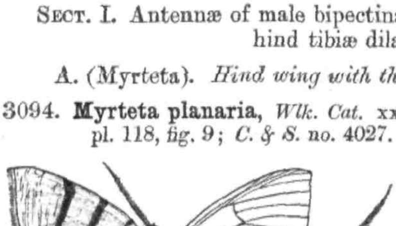

Fig. 83.—*Myrteta planaria*, ♂. 1/1.

Whitish, slightly suffused with fuscous; frons red-brown. Fore wing with outwardly oblique antemedial, medial, and postmedial brown lines; a diffused submarginal line and dark marginal line; the outer area slightly striated and suffused with brown. Hind wing with two indistinct elbowed lines from near lower angle of

cell to anal angle, which is suffused with orange, and with a brown spot on the margin before it; a submarginal band of brown striæ and suffusion; a dark marginal line.

Hab. Sikhim; Khásis. *Exp.* 38–46 millim.

3095. **Myrteta luteifrons**, *Swinh. Trans. Ent. Soc.* 1894, p. 193, pl. 2, fig. 14.

♀. White, slightly irrorated with pale fuscous; antennæ and frons pale fulvous. Fore wing with the costa slightly tinged with fulvous; a cell-speck; crenulate antemedial, medial, postmedial, and submarginal slightly oblique lines. Hind wing with cell-speck and crenulate antemedial, postmedial, and submarginal lines; cilia of both wings brown.

Hab. Khásis. *Exp.* 38 millim.

3096. **Myrteta sericea**, *Butl. A. M. N. H.* (5) iv, p. 439.
Orthocabera brunneiceps, *Warr. P. Z. S.* 1893, p. 387, pl. 31, fig. 23.

♂. White; the head fulvous; abdomen tinged with fulvous. Fore wing with a fulvous streak above vein 5 to the discocellulars, where it becomes double and slightly waved and runs to base of inner margin; a double slightly waved line from below apex to middle of inner margin; a similar submarginal line with a single line beyond it; a marginal line. Hind wing with subbasal line; double medial line and single submarginal and marginal lines.

Hab. Japan; Sikhim; Khásis. *Exp.* 40 millim.

3097. **Myrteta fuscolineata**, *Swinh. A. M. N. H.* (6) xiv, p. 137.

♀. Differs from *sericea* in the markings being pale fuscous. Fore wing irrorated with fuscous; the antemedial oblique line recurved at middle of cell to the costa; the submarginal line less oblique and arising from the costa before apex, with two waved lines beyond it. Hind wing with cell-speck; the medial line single; two waved submarginal lines.

Hab. Khásis. *Exp.* 34 millim.

3098. **Myrteta ocernaria**, *Swinh. A. M. N. H.* (6) xii, p. 152.

♂. White; head fulvous. Fore wing with the costa brown; a minute speck at end of cell; an oblique diffused line from apex to middle of inner margin; a submarginal line reduced to specks towards apex. Hind wing with subbasal and medial oblique diffused lines; a well-defined postmedial line.

Hab. Khásis; Pulo Laut; Borneo. *Exp.* 40 millim.

3099. **Myrteta subvitrea**, n. sp.

♂. Differs from *ocernaria* in being semihyaline white. Fore wing with the black-irrorated brown costa broader; hind wing with the postmedial line diffused; the margin produced to a point, with a prominent dark spot on it at vein 7.

Hab. Sikhim (*Dudgeon*). *Exp.* 40 millim. Type in B.M.

B. (Microniodes). *Hind wing with the outer margin angled at vein 4.*

3100. **Myrteta obliqua,** *Hmpsn. Ill. Het.* ix, p. 139, pl. 168, fig. 21.

♀. White; head fulvous; the frons white. Wings irrorated with brown. Fore wing with the costa brown; a speck at end of cell; an oblique line from apex to middle of inner margin; a submarginal series of specks and marginal line. Hind wing with subbasal and medial oblique lines; a diffused submarginal band of specks; a marginal line.

Hab. Ceylon. *Exp.* 52 millim.

Sect. II. Antennæ of male serrate; hind tibiæ not dilated and with no tuft of hairs; hind wing with the outer margin produced to a slight lobe at veins 3 and 4.

3101. **Myrteta subpunctata,** *Warr. P. Z. S.* 1893, p. 387, pl. 31, fig. 11.

♂. Differs from *simpliciata* in the postmedial line of both wings being nearer the submarginal, and with dark specks on it at the veins; cilia white.

Hab. Sikhim. *Exp.* 45 millim.

Sect. III. (*Micronidia*). Antennæ of male almost simple; hind tibiæ with a long tuft of hair on outer side from base; hind wing with the outer margin lobed.

3102. **Myrteta simpliciata,** *Moore, P. Z. S.* 1867, p. 646; *C. & S.* no. 4019.
Micronidia unipuncta, *Warr. P. Z. S.* 1893, p. 387.

White. Fore wing with some brown striæ from the costa; antemedial, medial, postmedial, and submarginal slightly waved brown bands; a marginal dark line. Hind wing with broad medial band meeting the slightly waved postmedial and submarginal bands near anal angle; a marginal dark line; two black spots at the lobe; cilia of both wings pale fuscous.

The form *unipuncta* has one spot on the marginal lobe of hind wing.

Hab. Sikhim; Khásis. *Exp.* 36 millim.

Genus TASTA.

Tasta, *Wlk. Cat.* xxvi, p. 1569 (1862).
Dissopthalmus, *Butl. A. M. N. H.* (5) vi, p. 219 (1880).

Type. *T. micacea*, Wlk.

Range. Sikhim; Khásis; Burma; Borneo.

Palpi very slender, porrect, and not reaching beyond frons; antennæ simple; legs naked. Fore wing with the apex rounded; vein 3 from angle of cell; 5 from just above middle of discocellulars; 7, 8, 9, 10 stalked from before upper angle. Hind wing with vein 3 from angle of cell.

SECT. I. Male with the retinaculum small.

3103. **Tasta micaceata**, *Wlk. Cat.* xxvi, p. 1570.
Dissopthalmus iridis, *Butl. A. M. N. H.* (5) vi, p. 219.

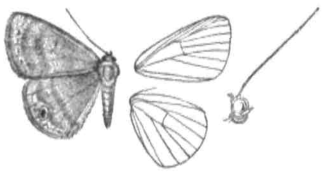

Fig. 84.—*Tasta micaceata*, ♂. ½.

Grey; wings with the basal two-thirds suffused with purple and irrorated with silver scales. Fore wing with a series of silvery-blue submarginal spots, largest towards costa. Hind wing with silvery-blue submarginal band expanding at middle and embracing a black-pupilled ocellus with yellow iris and black outer line. Underside purplish white, with dark marginal band.

Hab. Sikhim; Khásis; Borneo. *Exp.* 32 millim.

SECT. II. Male with the retinaculum a large corneous plate.

3104. **Tasta sectinota**, n. sp.

♂. Yellowish white; head fuscous; wings with the basal three-fourths irrorated with silver; traces of a postmedial fuscous band; a submarginal series of silver spots; cilia silver and gold; fore wing with a fuscous patch near apex, on which is a black spot with yellow outline, and divided by a yellow line.

Hab. E. Pegu (*Doherty*). *Exp.* 36 millim. Type in coll. Elwes.

Genus BAPTA.

Bapta, *Steph. Brit. Ent., Haust.* iii, p. 294 (1829).
Leucetæra, *Warr. Nov. Zool.* p. 405 (1894).

Type, *B. bimaculata*, Fabr., from Europe.

Range. Nearctic, Palæarctic, and Oriental regions; Solomons.

Differs from *Myrteta* in the antennæ of male being almost simple; hind tibiæ hardly dilated. Fore wing with vein 3 from angle of cell; 7, 8, 9, 10 stalked from before upper angle. Hind wing with vein 3 from angle of cell.

SECT. I. (*Leucetæra*). Fore wing with vein 11 stalked with 7, 8, 9, 10, anastomosing with 12 and then with 10.

3105. **Bapta inamata**, *Wlk. Cat.* xxii, p. 755; *Moore, Lep. Ceyl.* iii, pl. 185, fig. 4; *C. & S.* no. 3232.
Acidalia simpliciaria, *Wlk. Cat.* xxiii, p. 793.
Noreia luciferata, *Wlk. Cat.* xxiv, p. 1093.

White, irrorated with black; frons rufous. Fore wing with the costa fulvous; a speck at end of cell; an indistinct line from origin of vein 2 to inner margin; a postmedial fulvous and yellow line from below costa. Hind wing with speck in cell; a fulvous

and yellow postmedial line; the cilia of both wings fulvous, with the tips fuscous.

Typical *inamata* is wholly suffused with ochreous, and has the oblique line indistinct.

Hab. Sylhet; Nilgiris; Ceylon; Sumatra; Borneo. *Exp.* 32–36 millim.

3106. **Bapta deletaria,** *Moore, Lep. Atk.* p. 261, pl. 8, fig. 14: *C. & S.* no. 3608.
Macaria indistincta, *Moore, Lep. Atk.* p. 261; *C. & S.* no. 3611.

♂. Brownish flesh-colour, with a silvery tinge. Head purple-brown. Fore wing with the costa purple-brown; some indistinct purplish marks towards end of cell; a very indistinct postmedial band; a submarginal series of specks; cilia purple-brown. Hind wing with traces of ante- and postmedial lines; the cilia purple-brown.

Hab. Khásis. *Exp.* 32 millim.

SECT. II. (*Bapta*). Fore wing with vein 11 from the cell, then anastomosing with 12 and then with 10.

3107. **Bapta platyleucata,** *Wlk. Cat.* xxxv, p. 1628; *C. & S.* no. 3594.

♂. White, thickly irrorated with fuscous; palpi and frons rufous. Fore wing with the costa fulvous; a dark speck at end of cell; indistinct medial, postmedial, and submarginal bands of fuscous specks. Hind wing with a dark speck at end of cell; postmedial and submarginal bands of fuscous specks.

Hab. Gulmarg, Kashmir; Sikhim; Khásis. *Exp.* 32 millim.

3108. **Bapta mytylata,** *Guen. Phal.* ii, p. 58; *C. & S.* no. 3604.
Cabera margarita, *Moore, P. Z. S.* 1867, p. 647; *C. & S.* no. 3593.
Corycia alba, *Moore, Lep. Atk.* p. 261; *C. & S.* no. 3602.
Bapta griseola, *Warr. P. Z. S.* 1893, p. 386.

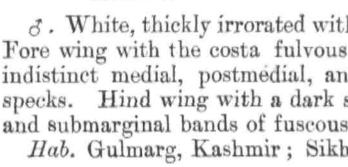

Fig. 85.—*Bapta mytylata*, ♂. ½.

Differs from *platyleucata* in being much less irrorated with fuscous; the bands of specks obsolescent and narrow.

The frons sometimes is partly white. It may be a variety of *platyleucata*.

Hab. N.W. Himalayas; Thundiáni, Punjab; Sikhim; Khásis. *Exp.* 32 millim.

Genus PLATYCEROTA.

Platycerota, *Hmpsn. Ill. Het.* ix, p. 141 (1893).

Type, *P. spilotelaria*, Wlk.

Range. Nilgiris; Ceylon.

Palpi hairy and not reaching beyond the frons; antennæ of

male flattened and thickened with appressed serrations; hind tibiæ not dilated. Fore wing with the apex rounded; vein 3 from before angle of cell; 5 from above middle of discocellulars; 7, 8, 9 stalked from before angle of cell; 10 and 11 stalked, 11 anastomosing with 12, and 10 with 8 and 9. Hind wing with vein 3 from before angle of cell.

SECT. I. Fore wing with veins 10 and 11 from cell.

3109. **Platycerota spilotelaria**, *Wlk. Cat.* xxvi, p. 1519; *Hmpsn. Ill. Het.* viii, pl. 149, figs. 5, 6, 11, 12; *C. & S.* no. 3172.
Anisodes inapertaria, *Wlk. Cat.* xxvi, p. 1581; *C. & S.* no. 3567.

♂. Reddish brown, irrorated with black; abdomen with two black dorsal spots. Fore wing with indistinct sinuous antemedial line; black speck at end of cell; an oblique postmedial line arising from below the apex, often from a white apical patch or from a black and white subapical spot. Hind wing with black specks at end of cell and oblique postmedial line.

The postmedial line of both wings may be white; the irroration may be very slight or prominent, or there may be fuscous suffusion on the antemedial line of fore wing and postmedial line of each wing.

♀. Usually yellower brown in tone.

Hab. Nilgiri plateau. *Exp.*, ♂ 36, ♀ 40 millim.

SECT. II. Fore wing with veins 10 and 11 given off from 7, 8, 9.

3110. **Platycerota punctilineata**, *Hmpsn. Ill. Het.* ix, p. 141, pl. 169, fig. 8.

♀. Red-brown. Fore wing with the base of costa blackish; an antemedial series of black specks; a speck at end of cell; a postmedial curved and waved line, with some black suffusion inside it on inner area, and black suffusion and patches beyond it. Hind wing with speck at end of cell and curved postmedial series of specks.

Hab. Ceylon. *Exp.* 26 millim.

Genus **APLOCHLORA**.

Aplochlora, *Warr. P. Z. S.* 1893, p. 386.

Type, *A. vivilaca*, Wlk.

Range. Sikhim; Bombay Presidency; Ceylon.

Palpi slender, the 2nd joint reaching vertex of head, the 3rd porrect; antennæ of male thickened by appressed serrations; abdomen of male with the anal tuft cylindrical; hind tibiæ not dilated. Fore wing with vein 3 from before angle of cell; 7, 8, 9, 10, 11 stalked from before upper angle, 10 and 11 being stalked, anastomosing with 12, and 10 anastomosing with 8, 9. Hind wing with vein 3 from just before angle of cell; 8 anastomosing with cell at middle.

3111. **Aplochlora vivilaca**, *Wlk. Cat.* xxii, p. 544; *Moore, Lep. Ceyl.* iii, pl. 195, fig. 3; *C. & S.* no. 3534.

Uniform pale dull green; the frons dark rufous; a dark speck at end of cell of each wing.

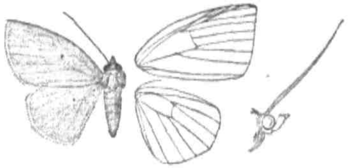

Fig. 86.—*Aplochlora vivilaca*, ♂. ½.

Hab. Sikhim; Bombay; Khandála; Ceylon. *Exp.* 34 millim.

Genus **METROCAMPA.**

Metrocampa, *Latr. Fam. Nat. Règ. An.* p. 477 (1825).
Tanaoctenia, *Warr. Nov. Zool.* p. 464 (1894).

Type, *M. honoraria*, Denis, from Europe.

Range. Nearctic and Palæarctic regions; Sikhim; Khásis.

Differs from *Myrteta* in the palpi being longer, more porrect, and clothed with longer hair; antennæ of male bipectinated to apex; fore tibiæ with the process on inner side long, thin, and reaching beyond the end of the tibia, with a tuft of hair from its base. Fore wing with vein 10 given off from 7, 8, and 9, and anastomosing with 11 after its anastomosis with 12.

SECT. I. Both sexes with the shaft of antennæ clothed with large white scales at base.

3112. **Metrocampa haliaria**, *Wlk. Cat.* xxii, p. 518; *Butl. Ill. Het.* vi, pl. 117, fig. 7; *C. & S.* no. 3442.
Geometra decoraria, *Wlk. Cat.* xxxv, p. 1601.

♂. Bright green; palpi, frons, and antennæ rufous; vertex of head and shaft of antennæ white. Wings with traces of pale

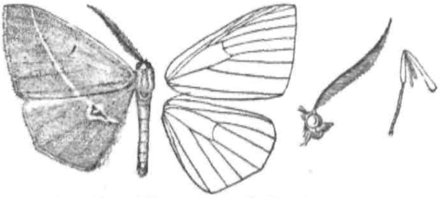

Fig. 87.—*Metrocampa haliaria*, ♂. ½.

striæ. Fore wing with the costa white, rufous at base; an indistinct outwardly-oblique antemedial white line nearly joined on inner margin by a more prominent line from apex; a rufous speck at end of cell. Hind wing with white antemedial line, and with a

large rufous patch below end of cell; cilia of both wings white, brownish at base. Underside suffused with whitish; hind wing with sinuous whitish line from apex joining the antemedial line on inner margin.

♀. Without the rufous patch on hind wing.

Hab. Sikhim; Khásis. *Exp.* 42–50 millim.

SECT. II. Shaft of antennæ not clothed with scales at base.

3113. **Metrocampa biseriata**, *Moore, Lep. Atk.* p. 249; *C. & S.* no. 3433.

♀. Bright green above, white beneath; abdomen with black patch towards extremity. Fore wing with ante- and postmedial series of rufous specks; a speck at end of cell; two black marks below costa near apex. Hind wing with traces of medial series of specks ending in a black mark on inner margin; cilia of both wings ochreous white.

Hab. Sikhim. *Exp.* 54 millim.

Genus CABERODES.

Caberodes, *Guen. Phal.* i, p. 135 (1857).
Nothomiza, *Warr. Nov. Zool.* p. 443 (1894).

Type, *C. achromaria*, Guen.

Range. Himalayas; Khásis.

Differs from *Metrocampa* in the palpi being slighter and not reaching beyond the frons; fore tibia with the process normal. Fore wing with vein 10 not anastomosing with 11, which is free. Hind wing with the outer margin rounded.

SECT. I. Antennæ of male thickened and flattened.

3114. **Caberodes dentisignata**, *Moore, P. Z. S.* 1867, p. 636; *Waterh. Aid*, ii, pl. 151, fig. 4; *C. & S.* no. 3435.
Geometra grata, *Butl. A. M. N. H.* (5) vi, p. 129; *id. Ill. Het.* vi, pl. 117, fig. 6; *C. & S.* no. 3441.

♂. Glaucous green; palpi and antennæ brownish; abdomen

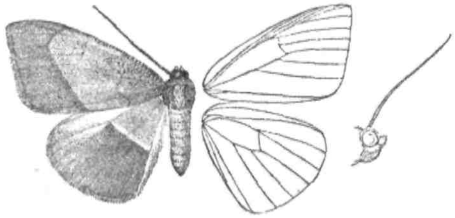

Fig. 88.—*Caberodes dentisignata*, ♂. ½.

white; wings slightly striated with rufous. Fore wing with indistinct antemedial sinuous rufous line, angled below costa; a dark

speck at end of cell; a postmedial line angled below costa, then oblique to inner margin, becoming medial on hind wing and with pale suffusion on its inner edge. Underside white.

♀. With the markings ferruginous and with more prominent ferruginous striæ; the ante- and postmedial lines of fore wing evenly curved.

The N.W. Himalayan form is greener.

Hab. Dalhousie; Sikhim. *Exp.* 50 millim.

3115. **Caberodes achromaria,** *Guen. Phal.* i, p. 136; *C. & S.* no. 3199.

Whitish, with a slight grey-green tinge. Fore wing with a nearly straight pale and fuscous antemedial line; both wings with a speck at end of cell, and nearly straight oblique fuscous and pale postmedial line.

Hab. Dharmsála; Khásis. *Exp.* 32 millim.

3116. **Caberodes viridis,** *Warr. P. Z. S.* 1893, p. 386.

♂. Pale green; the head, thorax, abdomen, costa of fore wing, and cilia of both wings whitish; a dark speck at end of cell of each wing.

Hab. Sikhim. *Exp.* 30 millim.

3117. **Caberodes peralba,** *Swinh. Trans. Ent. Soc.* 1894, p. 195, pl. ii, fig. 5.

Silky white; palpi, frons, and antennæ ochreous. Fore wing with the costa tinged with pink and speckled with black; ante- and postmedial oblique strigæ from the costa; traces of curved postmedial series of specks. Hind wing with dark spot at end of cell and curved postmedial band. Underside with prominent cell-spot to both wings and postmedial band to hind wing.

Hab. Khásis. *Exp.*, ♂ 24, ♀ 28 millim.

3118. **Caberodes cinerascens,** *Moore, Lep. Atk.* p. 261; *C. & S.* no. 3603.

Differs from *peralba* in being irrorated with fuscous. Fore wing with no pink on costa; a speck at end of cell, and curved double indistinct postmedial line to both wings. Underside with the cell-spots small and postmedial line narrow.

Hab. Sikhim. *Exp.* 26 millim.

3119. **Caberodes costinotata,** *Warr. P. Z. S.* 1893, p. 411.

♂. Pale ochreous, suffused and irrorated with ferruginous. Fore wing with the costal and apical areas suffused with purplish fuscous; a black speck at end of cell; a postmedial triangular yellow patch on costa. Hind wing with speck at end of cell and traces of a postmedial line.

Hab. Bhután. *Exp.* 28 millim.

SECT. II. (*Nothomiza*). Antennæ of male serrate.

3120. **Caberodes costalis**, *Moore, P. Z. S.* 1867, p. 616; *C. & S.* no. 3246.
Ellopia pulchra, *Butl. A. M. N. H.* (5) vi, p. 124; *id. Ill. Het.* vi, p. 56, pl. 114, fig. 8; *C. & S.* no. 3221.

Pink, irrorated with fuscous; vertex of head yellow. Fore wing with the costal area yellow, sending angles downwards at middle and end of cell; an indistinct oblique fuscous line from upper angle of cell to near base of inner margin; an ill-defined postmedial line from costa to vein 3, then recurved to origin of that vein and oblique to inner margin, the area beyond it suffused with fuscous except at apex. Hind wing with the costal area pale; the basal half suffused with fuscous; a diffused postmedial patch between veins 2 and 6; some diffused fuscous on outer margin.

Hab. Sikhim; Khásis. *Exp.* 52 millim.

Genus PLUTODES.

Plutodes, *Guen. Phal.* ii, p. 117 (1857).
Micronissa, *Swinh. Trans. Ent. Soc.* 1891, p. 483.
Archiplutodes, *Warr. Nov. Zool.* p. 404 (1894).

Type, *P. cyclaria*, Guen.

Range. Throughout India and Ceylon; Borneo.

Differs from *Bapta* in the palpi being clothed with hair; antennæ uniseriate in both sexes to two-thirds length.

SECT. I. Fore wing with vein 11 free.

A. (Archiplutodes). *Wings with outer margin rounded.*

3121. **Plutodes prasina**, *Swinh. Trans. Ent. Soc.* 1892, p. 13, pl. i, fig. 10.

♂. Yellow; the frons rufous; abdomen suffused with rufous; shaft of antennæ white. Fore wing with the basal and costal areas striated with rufous; a rufous blotch with some leaden scales on it at end of cell, and continued to inner margin as an incurved band; a postmedial band of ill-defined rufous spots and reticulations with leaden scales on them, wide below costa; a submarginal line and series of marginal specks. Hind wing with the base rufous; an antemedial rufous line; an indistinct double postmedial dentate rufous line with some leaden scales on it; a submarginal curved maculate band; a marginal series of specks.

Hab. Sikhim; Khásis. *Exp.* 34 millim.

B. (Micronissa). *Hind wing with the outer margin slightly angled at vein 3.*

3122. **Plutodes delphinaria**, *Swinh. A. M. N. H.* (6) xii, p. 152.

♂. White; frons and antennæ pale fulvous; wings semihyaline.

Fore wing with the costa ochreous; traces of antemedial, postmedial, submarginal, and marginal fuscous waved lines to both wings. Hind wing with a red spot on margin at angle.

Hab. Sikhim; Khásis. *Exp.* 38 millim.

C. *Both wings with their outer margins very slightly angled at vein 3.*

3123. **Plutodes nilgirica,** *Hmpsn. Ill. Het.* viii, p. 115, pl. 151, fig. 6.

♂. Differs from *cyclaria* in the fore wing having the edges of the basal and outer rufous patches irregular: the outer patch not extending over the inner area, which is left yellow. Hind wing with the outer edge of the basal patch waved, and separated from the outer patch, which is reniform with waved edges.

Hab. Nilgiris. *Exp.* 36 millim.

3124. **Plutodes exiguifascia,** *Hmpsn. Ill. Het.* ix, p. 140, pl. 169, fig. 17.

Wings with the basal rufous patches large, with straight outer edges and separated from the outer patches, which have single, hardly sinuous, silvery inner edges, are crossed by a faint waved line and cover the whole outer half of both wings, leaving the costa of fore wing and cilia of both wings yellow.

Hab. Ceylon. *Exp.* 32 millim.

3125. **Plutodes subcaudata,** *Butl. A. M. N. H.* (5) vi, p. 224; *id. Ill. Het.* vi, p. 119, fig. 5; *C. & S.* no. 3701.

Differs from *exquisita* in the fore wing having the outer rufous band expanded into a large rounded patch towards costa and narrowing towards inner margin. Hind wing with the outer band narrow at costa, expanding into a large rounded patch from veins 7 to 3, where it contracts and thence expands to anal angle, and with a blackish spot on its outer edge at middle of margin.

Hab. Sikhim; Khásis. *Exp.* 36 millim.

3126. **Plutodes costatus,** *Butl. Ill. Het.* vi, p. 53, pl. 114, fig. 4; *C. & S.* no. 3182.

Plutodes triangularis, *Warr. P. Z. S.* 1893, p. 388.

Head rufous, the vertex and collar yellow; thorax and abdomen rufous. Wings rufous, with numerous pale striæ. Fore wing with the costa yellow, with some silvery scales below it and sending three triangular spurs downwards at middle and beyond end of cell and near apex, the 2nd largest; a yellow patch at outer angle; the cilia mostly yellow. Hind wing with a narrow yellow patch at apex.

Hab. Simla; Sikhim; Khásis. *Exp.* 40–48 millim.

Sect. II. (*Plutodes*). Fore wing with veins 7, 8, 9, 10, 11 stalked; wings with the outer margin rounded.

3127. **Plutodes cyclaria,** *Guen. Phal.* ii, p. 118, pl. 20, fig. 3; *C. & S.* no. 3697.

Head rufous, the vertex and shaft of antennæ white; collar yellow; thorax and abdomen rufous. Fore wing bright yellow; a large rufous patch with silvery outline occupying the whole basal half of inner area and conjoined to a similar rounded patch filling nearly the whole outer area and crossed by an indistinct slightly-waved rufous line; thus the only parts left yellow are the costa with a triangular patch from it extending to lower angle of cell, the outer margin and a spot on inner margin. Hind wing similar, the basal patch covering the whole base of wing and the outer patch more elongate.

Hab. ? Punjab; Borneo. *Exp.* 26 millim.

3128. **Plutodes transmutata,** *Wlk. Cat.* xxiii, p. 976; *Butl. Ill. Het.* vi, pl. 119, fig. 1; *C. & S.* no. 3702.
Comibæna gavisata, *Wlk. Cat.* xxvi, p. 1566.

Differs from *discigera* in the basal patches of both wings being smaller; the outer patches with their inner edges sinuous and extending to the inner margin of the fore wing and costa of hind wing and not crossed by a waved line.

Hab. N. India; Khandála; Ceylon. *Exp.* 28 millim.

3129. **Plutodes discigera,** *Butl. A. M. N. H.* (5) vi (1880), p. 223; *id. Ill. Het.* vi, pl. 119, fig. 2; *C. & S.* no. 3698.
Plutodes flavescens, *Butl. A. M. N. H.* (5) vi, p. 223; *id. Ill. Het.* vi, pl. 119, fig. 3; *C. & S.* no. 3700.

Differs from *cyclaria* in the basal rufous patches of each wing being smaller and well separated from the outer patches, which are also smaller and rounder, with the silvery line defining their inner edges double and the rufous line crossing them more waved.

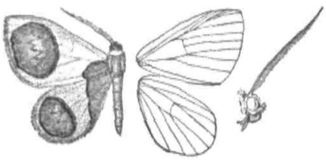

Fig. 89.—*Plutodes discigera*, ♂. 1/1.

In the form *flavescens* the rufous patches are smaller than in *discigera*, and the lines crossing them highly waved.

Hab. Sikhim; Khásis. *Exp.* 32–36 millim.

3130. **Plutodes exquisita,** *Butl. A. M. N. H.* (5) vi (1880), p. 223; *id. Ill. Het.* vi, pl. 119, fig. 4; *C. & S.* no. 3699.

Fore wing with the basal patches very small; the outer patch forming a band of nearly even width with double silvery inner edge and crossed by an irregularly dentate line. Hind wing with the basal patch forming a narrow band along inner area,

where it joins the broad outer band, which has a double silvery inner edge, is crossed by a dentate line, and has a black spot on it near anal angle.

Hab. Sikhim; Khásis. *Exp.* 34 millim.

3131. **Plutodes lamisca**, *Swinh. Trans. Ent. Soc.* 1894, p. 196.

♂. Differs from *transmutata* in the markings being darker rufous. Fore wing with the basal patch sometimes conjoined to the subapical patch, which is much wider, with irregular edges and only extending to vein 3. Hind wing with the submarginal patch reduced to the area between veins 2 and 4, being represented elsewhere by a waved line on its inner edge and silvery points on its outer; the basal patch with waved outer edge, and sometimes conjoined to the submarginal patch.

Hab. Khásis. *Exp.* 32 millim.

Genus SCARDAMIA.

Scardamia, *Guen. Phal.* i, p. 89 (1857).
Laginia, *Wlk. Cat.* xx, p. 244 (1860).

Type, *S. metallaria*, Guen.

Range. S. Africa; Siberia; Formosa; throughout India and Ceylon; Java; Borneo.

Palpi smoothly scaled and not reaching beyond the frons; antennæ of male bipectinated; hind tibiæ not dilated. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 and 11 stalked, 11 anastomosing with 12. Hind wing with vein 3 from before angle of cell; 7 from before upper angle.

3132. **Scardamia metallaria**, *Guen. Phal.* i, p. 89; *Moore Lep. Ceyl.* iii, pl. 185, fig. 2; *C. & S.* no. 3196.
Laginia bractearia, *Wlk. Cat.* xx, p. 245.
Scardamia taprobanes, *Feld. Reis. Nov.* pl. 123, fig. 2.
Scardamia aurantiacaria, *Brem. Ost-Sib.* p. 72, pl. 6, fig 15.

Scarlet or yellow-orange, striated and suffused with ferruginous; antennæ, collar, and costa of fore wing fuscous. Fore wing with obliquely curved antemedial dark band with a silvery line on it; both wings with a similar nearly straight postmedial line with an indistinct greyish line beyond it; some silver strigæ on margin and speck at end of cell

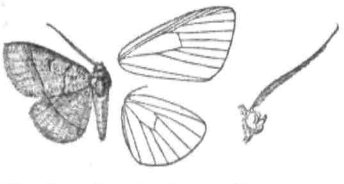

Fig. 90.—*Scardamia metallaria*, ♂. ¼.

Underside pale, pinkish beyond the postmedial line.

Hab. Siberia; Formosa; throughout India and Ceylon; Java. *Exp.* 28–30 millim.

Genus **PERATOPHYGA.**

Peratophyga, *Warr. Nov. Zool.* p. 407 (1894).
Peratophyga, *Swinh. Trans. Ent. Soc.* 1894, p. 204.

Type, *P. ærata*, Moore.
Range. Japan; N.W. Himalayas; Khásis; Borneo.

Palpi slight, porrect, hairy, and not reaching beyond frons; antennæ serrate and fasciculate in male; hind tibiæ dilated. Fore wing of male with fovea; vein 3 from just before angle of cell; 5, 6 stalked from upper angle; 7, 8, 9, 10 stalked from before angle. Hind wing with vein 3 from angle of cell.

3133. **Peratophyga ærata,** *Moore, P. Z. S.* 1867, p. 643; *C. & S.* no. 3916.
Ephyra grata, *Butl. A. M. N. H.* (5) iv. p. 438.

Ochreous; the thorax and abdomen suffused with purplish fuscous. Fore wing with basal purplish-fuscous patch; a sinuous maculate antemedial band; a postmedial series of spots, on costa, beyond end of cell, and on inner margin, immediately beyond which a series of spots on the veins is often developed; a broad band on outer area with its inner edge sinuous, usually leaving the margin yellow. Hind wing similar, but without the basal patch and spot beyond cell.

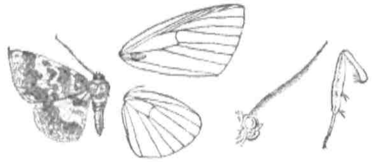

Fig. 91.—*Peratophyga ærata*, ♂. 1/1.

The markings are very variable in size, being much reduced in the form *grata*.
Hab. Japan; Simla; Kulu; Khásis. *Exp.* 26 millim.

Genus **STEGANIA.**

Stegania, *Guen. Dup. Cat. Lép. Eur.* p. 270 (1844).
Lomographa, *Hübn. Verz.* p. 311 (? 1818), non descr.
Heterostegane, *Hmpsn. Ill. Het.* ix, p. 142 (1893).

Type, *S. trimaculata*, Vill., from Europe.
Range. Europe; throughout India, Ceylon, and Burma; Borneo.

Palpi minute, slender, porrect, and hairy; hind tibiæ slightly dilated. Fore wing with veins 7, 8, 9 stalked, from upper angle; 10 absent.

SECT. I. (*Heterostegane*). Antennæ of male ciliated; fore wing with vein 11 free; both wings with vein 3 from lower angle of cell.

A. *Fore wing of male with a fovea covered with hair.*

3134. **Stegania marginata,** *Warr. P. Z. S.* 1893, p. 388, pl. 32, fig. 22.

♂. Head and thorax brown with a purplish tinge; abdomen

ochreous suffused with rufous. Fore wing ochreous, thickly irrorated with rufous except beyond cell, the base and costa purplish brown; a rufous spot on discocellulars; a dark line from costa before apex excurved to near outer margin and bent inwards near inner angle, the area beyond it purplish brown. Hind wing ochreous, thickly irrorated with rufous; a speck at end of cell; a double purplish-brown marginal line.

Hab. Simla; Khásis; Nágas. *Exp.* 28 millim.

3135. **Stegania strigata,** *Warr. P. Z. S.* 1893, p. 412, pl. 31, fig. 22.

Ochreous, striated with dark brown. Fore wing with dark patch at end of cell; a lunulate submarginal band joined in places to a marginal band, and both interrupted at middle. Hind wing with speck at end of cell; an interrupted series of submarginal lunules; a marginal series of specks.

Hab. Sikhim; Khásis; Nágas. *Exp.* 30 millim.

B. *Fore wing of male without fovea.*

3136. **Stegania subtessellata,** *Wlk. Cat.* xxvi, p. 1648; *Hmpsn. Ill. Het.* viii, pl. 156, fig. 6; *C. & S.* no. 3616.

Yellow, irrorated with rust-red. Fore wing with an antemedial rust-red line angled at median nervure; a slightly sinuous medial line; a lunulate postmedial line; a submarginal line angled outwards to the margin and terminating in a blotch at outer angle; a marginal line and series of spots. Hind wing with straight antemedial line; curved lunulate postmedial line arising from a blotch on the costa; a slightly sinuous submarginal line, with a dentate spot on it between veins 5 and 6; a marginal line.

Fig. 92.—*Stegania subtessellata*, ♂. 1/1.

The Bornean form is darker.

Hab. Dharmsála; Khásis; Canara; Nilgiris; Borneo. *Exp.* 24–30 millim.

3137. **Stegania urbica,** *Swinh. P. Z. S.* 1885, p. 859; *C. & S.* no. 3987.

♂. Differs from *subtessellata* in being more thickly irrorated with ferruginous red. Fore wing with the antemedial line almost obsolete; the medial line straight; the submarginal line less acutely angled and without a blotch at outer angle. Hind wing with the lines indistinct and less irregular.

♀ darker, and often irrorated with fuscous.

Hab. Bombay; N. Canara; Nilgiris; Burma. *Exp.* 20 millim.

3138. **Stegania bilineata**, *Butl. P. Z. S.* 1883, p. 170; *C. & S.* no. 3973.
Asthena maculifascia, *Hmpsn. Ill. Het.* viii, p. 125, pl. 153, fig. 5.
Terpnomicta lala, *Swinh. Trans. Ent. Soc.* 1892, p. 13.
Heterostegane aurantiaca, *Warr. Nov. Zool.* p. 406.

Differs from *urbica* in the antemedial line of fore wing and postmedial line of both wings being absent; the medial line almost straight across both wings: the submarginal line less angled at veins 5 and 2 of each wing and not touching the margin.

In *bilineata* there is a broad dark marginal band on underside; in the form *maculifascia* the submarginal line on upper and underside is reduced to dark blotches.

Hab. Khásis; Asirgarh; Nilgiris; Ceylon. *Exp.* 20–22 millim.

3139. **Stegania rectifascia**, *Hmpsn. Ill. Het.* ix, p. 142, pl. 170, fig. 8.

Differs from the last three species in the lines of both upper and undersides being almost straight and all indistinct, the medial and submarginal lines being more prominent than the ante- and postmedial.

Hab. Nágas; Ceylon. *Exp.* 22 millim.

3140. **Stegania crina**, *Swinh. Trans. Ent. Soc.* 1892, p. 14, pl. 1, fig. 14.

♂. Ochreous, irrorated with rufous. Fore wing with the costa rufous; a slightly sinuous oblique antemedial line and broader straight medial and postmedial lines, the latter ending at outer angle. Hind wing with antemedial line; an oblique line from middle of costa curved on vein 1 and ending on inner margin above anal angle; both wings with the margin dark. Underside with the disk of fore wing suffused with pink.

Hab. Khásis. *Exp.* 26 millim.

SECT. II. Antennæ of male serrate; fore wing with a fovea; vein 11 free; 5 from near upper angle of cell.

3141. **Stegania trilineata**, *Moore, P. Z. S.* 1867, p. 642; *C. & S.* no. 3980.

♂. Fuscous, suffused with orange-red and irrorated with ochreous. Fore wing with antemedial, medial, and postmedial slightly curved orange lines. Hind wing with ante- and postmedial lines.

Hab. Sikhim. *Exp.* 26 millim.

SECT. III. Antennæ of male bipectinate with short stiff branches to three fourths length; fore wing with no fovea, 11 connected with 12; both wings with vein 3 from before angle of cell.

3142. **Stegania latifasciata**, *Moore, Lep. Atk.* p. 260; *C. & S.* no. 3596.

♂. Ochreous with ferruginous suffusion and striæ. Fore wing with ante- and postmedial dark lines with grey on their edges, the former sinuous, the latter angled at vein 2. Hind wing with medial white band very broad at costa and with a rufous speck at end of cell, some grey on its inner edge, and oblique fuscous band on its outer; both wings with marginal dark line. Underside pale, with dark apical patch to hind wing.

♀. Paler, with the band of the hind wing much greyer.

Hab. Sikhim; Khásis. *Exp.* 28 millim.

Genus SYNEGIA.

Synegia, *Guen. Phal.* i, p. 423 (1857).
Borbacha, *Moore, Lep. Ceyl.* iii, p. 446 (1887).
Parasynegia, *Warr. P. Z. S.* 1893, p. 413.
Heterostegania, *Warr. P. Z. S.* 1893, p. 415.
Xenagia, *Warr. Nov. Zool.* p. 407 (1894).
Syntaracta, *Warr. Nov. Zool.* p. 408.

Type, *S. botydaria*, Guen.

Range. Japan; China; Himalayas; Assam; Nilgiris; Ceylon; Singapore; Borneo.

Palpi obliquely porrect, roughly scaled, and reaching beyond the frons; hind tibiæ not dilated. Fore wing with vein 3 from near angle of cell; 7, 8, 9 stalked from near upper angle; 10 and 11 stalked, connected or anastomosing with 12, and 10 connected or anastomosing with 8 and 9.

SECT. I. (*Synegia*). Antennæ of male long, with very short branches ending in a bristle; abdomen elongated, with very large claspers tufted with hair; retinaculum a tuft of hair.

3143. **Synegia imitaria**, *Wlk. Cat.* xxii, p. 643; *Hmpsn. Ill. Het.* ix, pl. 169, figs. 5, 11; *C. & S.* no. 3586.
Anisodes obrimaria, *Wlk. Cat.* xxii, p. 644.
Syntaracta æmula, *Warr. Nov. Zool.* p. 408.

Yellow, spotted with orange or ferruginous; palpi barred with orange; collar purple-grey. Fore wing with the costa purplish grey; a waved antemedial band which is often grey; both wings with speck at end of cell; a crenulate postmedial line often with a grey band inside it; traces of a submarginal band and a marginal series of specks.

The variety *obrimaria* has the postmedial band obsolete on costal area of both wings.

Hab. Nilgiris; Ceylon; Borneo. *Exp.*, ♂ 36, ♀ 36–44 millim.

SECT. II. (*Parasynegia*). Antennæ of male bipectinated with moderate branches to near apex.

A. *Retinaculum of male forming a large spatulate plate.*

a. *Hind wing with the outer margin not excised towards anal angle.*

3144. **Synegia pluristriaria,** *Wlk. Cat.* xxvi, p. 1581; *Butl. Ill. Het.* vi, pl. 118, fig. 8; *C. & S.* no. 3578.

♂. Yellow, irrorated with ferruginous; shaft of antennæ and vertex of head white; abdomen ringed with ferruginous. Fore wing with a highly curved antemedial ferruginous line; a very oblique line from near apex, waved near costa and joined by an oblique streak from apex; a line from middle of outer margin to middle of inner margin crossing a postmedial line from vein 3 to inner margin and a submarginal line; a dark-ringed white spot at end of cell. Hind wing with five lines; the postmedial waved, the submarginal forked towards apex; a dark-ringed white speck at end of cell.

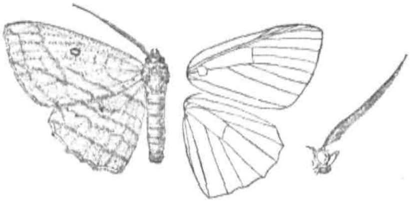

Fig. 93.—*Synegia pluristriaria*, ♂. ¼.

Hab. Dharmsála; Sikhim; Khásis; Sibságar. *Exp.* 46 millim.

3145. **Synegia diffusaria,** *Moore, P. Z. S.* 1867, p. 641; *C. & S.* no. 3564.

Anisodes punctifera, *Butl. A. M. N. H.* (5) vi, p. 220; *id. Ill. Het.* vi, pl. 118, fig. 7; *C. & S.* no. 3579.

♂. Yellow, irrorated with orange. Fore wing with some dark specks on basal area and speck at end of cell; an oblique medial brown band composed of two lunulate lines, the outer edged by a series of black specks and conjoined to subapical and medial diffused brown patches forming part of a submarginal band. Hind wing with oblique subbasal band; a speck at end of cell; two ill-defined medial lines with a series of specks beyond them; an obscure submarginal band; both wings with a series of marginal specks. Underside pale.

Hab. Sikhim; Khásis. *Exp.* 42 millim.

3146. **Synegia complicata,** *Warr. P. Z. S.* 1893, p. 414.

Yellow, irrorated with orange. Fore wing with irregularly dentate antemedial line; a speck at end of cell; an obliquely curved double postmedial line, the two parts separating near inner margin, joined by streaks from apex and middle of margin, a submarginal line running from the lower streak to inner margin. Hind wing with oblique subbasal and antemedial lines; a speck at end of cell; an oblique postmedial line with a slender line beyond

it excurved at middle; an oblique line from below apex to inner margin.

Hab. Nágas. *Exp.* 38 millim.

3147. **Synegia lidderdalii,** *Butl. A. M. N. H.* (5) vi, p. 220; *id. Ill. Het.* vi, pl. 118, fig. 6; *C. & S.* no. 3569.
Parasynegia macularia, *Warr. Nov. Zool.* p. 410.

Differs from *diffusaria* in the oblique bands of the fore wing being smoky black and expanding into a large quadrate patch between veins 2 and 7; the submarginal patches smoky black. Hind wing with the subbasal band smoky black; hardly a trace of medial and submarginal lines, the latter being represented by a black patch at middle; some dark patches on margin.

Hab. Sikhim. *Exp.* 34–46 millim.

b. *Hind wing with the outer margin slightly excised towards anal angle.*

3148. **Synegia erythra,** *Hmpsn. Ill. Het.* viii, p. 104, pl. 150, fig. 2.
Parasynegia suffusa, *Warr. P. Z. S.* 1893, p. 414.
Synegia gopterana, *Swinh. Trans. Ent. Soc.* 1894, p. 206.

♂. Yellow, irrorated with crimson; shaft of antennæ white. Fore wing with curved ante- and postmedial fuscous lines; a speck at end of cell; the costa spotted with fuscous towards apex. Hind wing with speck at end of cell, a submarginal line angled outwards to the margin below vein 6. Underside pale.

The form *suffusa* from the Khásis and Nágas has the irroration thicker and orange; some fuscous suffusion on disk of fore wing sending out streaks to the margin or forming oblique bands on both wings.

Hab. Khásis; Nágas; Nilgiris. *Exp.* 32 millim.

B. (Xenagia). *Male with the retinaculum bar-shaped.*

3149. **Synegia camptogrammaria,** *Guen. Phal.* i. p. 420.
Hyperythra vitticostata, *Wlk. Cat.* xxvi, p. 1497; *C. & S.* no. 3155.
Synegia infixaria, *Butl. Ill. Het.* vi, pl. 118, fig. 4 (*nec Wlk.*); *C. & S.* no. 3587.

Yellow, irrorated with orange; collar purplish grey. Fore wing with the costal area purplish grey, with a ferruginous streak below it; ante- and postmedial ferruginous lines angled below costa; a dark speck at end of cell; an indistinct slightly sinuous submarginal ferruginous line. Hind wing with speck at end of cell, ante- and postmedial lines, the area between them, and the apical area suffused with rufous; traces of a submarginal line. Underside pale, with dark patches on the lines.

Hab. Sikhim; Khásis. *Exp.* 38 millim.

SECT. III. (*Borbacha*). Antennæ pectinated with uniseriate branches in both sexes.

3150. **Synegia pardaria**, *Guen. Phal.* i, p. 420; *Moore, Lep. Ceyl.* iii, pl. 199, fig. 9; *C. & S.* no. 3585.
Anisodes sarawackaria, *Guen. Phal.* i, p. 420.

Yellow, irrorated with orange; head black. Wings with an antemedial band composed of grey marks outlined with rufous, angled in cell of fore wing and becoming subbasal on hind wing; similar postmedial and submarginal bands, but composed of distinct lunules, interrupted on fore wing and double at middle on hind wing; black specks at end of the cells. Underside with the ground-colour pale.

Hab. Khásis; Ceylon; Borneo. *Exp.* 44 millim.

SECT. IV. Antennæ of male almost simple; retinaculum a tuft; claspers large.

3151. **Synegia lunulosa**, *Moore, Lep. Atk.* p. 250, pl. 8, fig. 8; *C. & S.* no. 3570.
Heterostegania nigrofusa, *Warr. P. Z. S.* 1893, p. 415.

♂. Ochreous, irrorated with rufous and black. Fore wing with ferruginous antemedial band with waved inner edge, expanding towards inner margin and diffused outwardly; a black speck at end of cell; a postmedial band narrow towards costa, very broad below vein 4, with lunulate outer edge and diffused inwardly; a short sinuous black mark below apex. Hind wing with black speck at end of cell; the basal half rufous with lunulate outer edge.

The form *nigrofusa* has a black patch on the postmedial band of fore wing at vein 2.

Hab. Sikhim. *Exp.* 36–40 millim.

Genus **HYPOCHROSIS**.

Hypochrosis, *Guen. Phal.* ii, p. 536 (1857).
Achrosis, *Guen. Phal.* ii, p. 539.
Omiza, *Wlk. Cat.* xx, p. 246 (1860).
Celenna, *Wlk. Cat.* xxii, p. 519 (1861).
Pagrasa, *Wlk. Cat.* xxiv, p. 1086 (1862).
Patruissa, *Wlk. Cat.* xxvi, p. 1691 (1862).
Marcala, *Wlk. Cat.* xxvi, p. 1764.
Capasa, *Wlk. Cat.* xxxvi, p. 1565 (1866).
Phœnix, *Butl. A. M. N. H.* (5) vi, p. 122 (1880).

Type, *H. sternaria*, Guen.

Range. Madagascar; China; Himalayas; Ceylon; Assam and Burma; Andamans; Sumatra; Borneo; Aru.

Palpi usually not reaching beyond the frons; antennæ bipectinated in both sexes, the branches in male longer than in female; claspers of male very large; fore leg with the process reaching

beyond end of tibia; hind tibiæ not dilated. Fore wing with the costa arched towards apex; vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 and 11 stalked, 11 being joined by a bar to 12, and sometimes 10 connected with 8 and 9. Hind wing with vein 3 from before angle of cell.

SECT. I. (*Hypochrosis*). Fore wing with the outer margin evenly curved.

A. *Palpi porrect, and not reaching beyond the frons.*

3152. **Hypochrosis pachiaria**, *Wlk. Cat.* xx, p. 247; *C. & S.* no. 3217.
Omiza affinis, *Moore, P. Z. S.* 1877, p. 621; *C. & S.* no. 3216.
Omiza miliaria, *Swinh. P. Z. S.* 1889, p. 425; *Hmpsn. Ill. Het.* viii, pl. 149, figs. 4, 10, 14, 15, 16, 17, 18.

♂. Bright yellow, irrorated with greenish fuscous; abdomen with a dark basal band and rufous at extremity. Fore wing with indistinct antemedial curved line; greenish annulus at end of cell; oblique line with some grey on it from apex to middle of inner margin of hind wing.

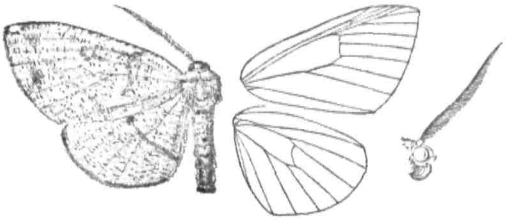

Fig. 94.—*Hypochrosis pachiaria*, ♂. ½.

♀. With some rufous suffusion at base of wings; the outer area rufous except towards apex of fore wing.

The Nilgiri form *miliaria* has the ground-colour of male rarely yellow, usually bright green, drab, or brick-red; female green with rufous patches, or wholly brick-red, dark red, or purplish fuscous.

Hab. Kulu; Sikhim; Khásis; Nilgiris; Shevaroys; Up. Burma; Andamans. *Exp.*, ♂ 52, ♀ 64 millim.

3153. **Hypochrosis iris**, *Butl. A. M. N. H.* (5) vi, p. 122; *id. Ill. Het.* vi, pl. 114, fig. 11; *C. & S.* no. 3215.

♂. Dark purple; the costal area of fore wing striated with pink; a glaucous green band with olive-green line on it from apex of fore wing to middle of inner margin of hind wing. Underside pinkish orange. Abdomen with a green band at middle.

Hab. Sikhim; Khásis; Khyeng Hills. *Exp.* 42 millim.

3154. **Hypochrosis hyadaria**, *Guen. Phal.* ii, p. 537; *C. & S.* no. 3706.
Lagyra abstractaria, *Wlk. Cat.* xxvi, p. 1485; *C. & S.* no. 3134.
Decetia tinctaria, *Wlk. Cat.* xxvi, p. 1522.
Marcala ignivorata, *Wlk. Cat.* xxvi, p. 1764; *C. & S.* no. 3206.
Decetia abstractaria, *Wlk. Cat.* xxxv, p. 1559; *C. & S.* no. 3222.
Marcala flavifusata, *Moore, Lep. Atk.* p. 231, pl. 8, fig. 6; *C. & S.* no. 3204.
Marcala irrorata, *Moore, Lep. Atk.* p. 232; *C. & S.* no. 3207.
Marcala obliquaria, *Moore, Lep. Atk.* p. 232; *C. & S.* no. 3208.
Marcala sulphurescens, *Moore, Lep. Ceyl.* iii, p. 405, pl. 185, fig. 8; *C. & S.* no. 3211.
Numeria galbulata, *Feld. Reis. Nov.* pl. 133, figs. 20, 20 *a*; *C. & S.* no. 3205.

Pale red, often with a purplish tinge, and with dark striæ; frons chestnut. Fore wing with an oblique antemedial line; a small annulus at end of cell; an oblique postmedial line highly angled below apex, where it encloses a greyish lunule, running to middle of inner margin of hind wing but obsolete on costal area of hind wing, which is paler; the area between the lines of fore wing often paler towards costa. Underside rufous or orange-yellow, often with the outer area of fore wing rufous.

A Khási variety has the lines of fore wing dark at costa and a large submarginal black blotch on inner area; the form *tinctaria* from Shillong is dark greyish purple, with the costal area of hind wing reddish orange and the underside redder. The Nilgiri and Ceylon forms *sulphurescens* and *galbulata* are greenish, especially between the lines of fore wing, which in the latter approach each other towards inner margin; *flavifusata* has the medial and outer areas of fore wing yellow except at outer angle.

Hab. Sikhim; Khásis; Nilgiris; Ceylon. *Exp.* 34–40 millim.

3155. **Hypochrosis venusa**, *Swinh. Trans. Ent. Soc.* 1894, p. 197.

♂. Differs from *hyadaria* in the frons being grey; the thorax and wings with a slight green tinge. Fore wing without the ante- and postmedial lines, but with a medial rufous line expanding into a large irregular green-centred patch from costa to lower angle of cell, with a dentition below costa. Hind wing with the line absent. Underside as in *tinctaria*.

Hab. Khásis. *Exp.* 28 millim.

3156. **Hypochrosis festivaria**, *Fabr. Ent. Syst.* iii, 2, p. 152; *C. & S.* no. 3705.
Geometra saturataria, *Wlk. Cat.* xxii, p. 519; *Moore, Lep. Ceyl.* iii, pl. 204, fig. 4; *C. & S.* 3210.

♀. Purplish grey, irrorated with fuscous. Fore wing with a large verditer-green patch with irregular whitish edges occupying the whole medial area except the costa, and with a similar rounded subapical patch beyond it. Hind wing with a similar patch

occupying the whole medial area except the costa, and widest towards inner margin. Underside orange-red, with a fuscous patch on fore wing below end of cell.

Hab. Hongkong; Sikhim; Bhután; Khásis; Sibságar; Nágas; Ceylon; Andamans. *Exp.* 32–34 millim.

3157. **Hypochrosis sternaria,** *Guen. Phal.* ii, p. 537; *C. & S.* no. 3708.

Patruissa pyrrhophæata, *Wlk. Cat.* xxvi, p. 1691.
Geometra binexata, *Wlk. Cat.* xxvi, p. 1752.
Omiza schistacea, *Moore, P. Z. S.* 1878, p. 851, pl. 53, fig. 12; *C. & S.* no. 3219.
Patruissa ocellata, *Warr. Nov. Zool.* p. 448.

Grey-brown; the wings with slight brown striæ. Fore wing with a highly irregular oblique medial browner band, broad at costa, its inner edge indented at lower angle of cell, its outer edge recurved upwards and narrowing at vein 5 and indented at vein 2; some brownish suffusion on middle of outer area. Hind wing with a dentate line with brown suffusion on its inner side from lower angle of cell to inner margin. Underside orange; the cell and outer area of fore wing reddish.

The form *schistacea* is greyer and without striæ; the band of fore wing narrower and without brown inside it; underside of fore wing with the red not extending into cell; *binexata* from Borneo is more rufous, with the band broader and more irregular, and with an ill-defined curved submarginal band on each wing.

Hab. Assam; Tenasserim; Borneo. *Exp.* 42–46 millim.

B. *Palpi upturned and reaching vertex of head.*

3158. **Hypochrosis pulchraria,** *Roths. Nov. Zool.* p. 540, pl. xii, fig. 10.

♂. Purplish or whitish grey, slightly irrorated with black; palpi tinged with rufous; frons blackish; thorax and second segment of abdomen banded with green. Fore wing with a green streak on base of median nervure; a spot below middle of costa; a large dark sap-green patch from just below apex to near base of inner margin, its upper edge curved, its lower angled at vein 4; traces of a waved submarginal line; a black line on margin just below apex and a fuscous patch on outer area below middle. Hind wing with green spot on inner area before middle in continuation of the patch of fore wing; three medial green specks or a band on inner area; traces of a waved submarginal line. Underside orange-red; fore wing with the costal area and hind wing with the basal area yellow; a fuscous patch near outer area of fore wing.

Hab. Khásis; Tenasserim. *Exp.* 34–42 millim.

SECT. II. (*Achrosis*). Fore wing with the outer margin excurved at middle.

3159. **Hypochrosis pyrrhularia**, *Guen. Phal.* ii. p. 539; *C. & S.* no. 3703.

Pagrasa instabilata, *Wlk. Cat.* xxiv, p. 1086; *Butl. Ill. Het.* vi, pl. 119, fig. 7.

♂. Grey; the head, thorax, and abdomen irrorated and spotted with black. Fore wing irrorated with black to beyond middle; some black spots at base; a band of black spots just beyond middle, angled below the costa; a submarginal black spot on costa and double series towards inner margin; outer area reddish. Hind wing with the inner area irrorated with black, and with submarginal double line. Underside with the apical area of fore wing bright yellow.

Hab. Sikhim; Assam. *Exp.* 38 millim.

3160. **Hypochrosis quadraria**, *Warr. P. Z. S.* 1893, p. 409.

♀. Ochreous grey. Fore wing suffused with vinous; ante- and postmedial lines each represented by an oblique black spot on costa and two spots above inner margin. Hind wing orange, with dark spots above anal angle. Underside orange; fore wing with the apical area vinous.

Hab. Bhután; Khásis. *Exp.* 42 millim.

SECT. III. Fore wing with the outer margin straight from apex to vein 3, then excised to outer angle.

3161. **Hypochrosis rufescens**, *Butl. A. M. N. H.* (5) vi, p. 224; *id. Ill. Het.* vi, pl. 119, fig. 6; *C. & S.* no. 3704.

♂. Greyish vinous; palpi blackish. Fore wing with outwardly oblique antemedial and inwardly oblique submarginal yellow lines not reaching costa; large black medial and postmedial spots on costa; outer area suffused with fuscous. Hind wing with submarginal yellow line from vein 4 to inner margin. Underside with the costa and outer area of fore wing bright red.

Hab. Sikhim. *Exp.* 40 millim.

Genus **PRIONIA**.

Prionia, *Hübn. Zutr.* iv, p. 40 (1832).
Osicerda, *Wlk. Cat.* xxiv, p. 1083 (1862).
Isnisca, *Wlk. Cat.* xxvi, p. 1765 (1862).
Celesdera, *Wlk. Cat.* xxvi, p. 1749 (1862).
Zomia, *Moore, P. Z. S.* 1867, p. 650.
Amorphozancle, *Warr. P. Z. S.* 1893, p. 408.

Type, *P. squalidaria*, Hübn.

Range. Japan; throughout, India, Ceylon, and Burma; Andamans; Java; Borneo.

Palpi slender and not reaching beyond the frons; antennæ bipectinated in both sexes to near apex, the branches longer in the male than in the female; hind tibiæ not dilated. Fore wing pro-

duced at apex; the outer margin usually excurved at middle; vein 3 from close to angle of cell; 7, 8, 9 stalked from before upper angle; 11 anastomosing with 12. Hind wing with vein 3 from before angle of cell.

SECT. I. (*Prionia*). Fore wing with vein 10 from cell at same point as 11, or very shortly stalked with it.

3162. **Prionia squalidaria**, *Hübn. Zutr.* iv, p. 40, figs. 787, 788; *C. & S.* no. 3691.
Prionia violacearia, *Guen. Phal.* i, p. 144.
Osicerda alienata, *Wlk. Cat.* xxiv, p. 1084.
Celesdera schistifusata, *Wlk. Cat.* xxvi, p. 1749.
Isnisca cyclogonata, *Wlk. Cat.* xxvi, p. 1765.

Red-brown, suffused with grey and irrorated with fuscous. Fore wing with dark medial and postmedial marks on costa, with indistinct waved lines from them to inner margin. Hind wing with the costal half reddish orange, the inner half crossed by a postmedial line. Underside orange-red.

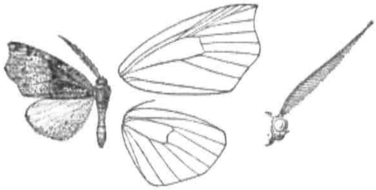

Fig. 95.—*Prionia squalidaria*, ♂. ½.

Some specimens have the fore wing much redder than others; some are redder with the costal area grey, or the area between the lines grey; or there may be much fuscous suffusion.

Hab. Throughout India, Ceylon, and Burma; Java. *Exp.*, ♂ 26–34, ♀ 30 millim.

3163. **Prionia lithosiaria**, *Wlk. Cat.* xxiv, p. 1085.
Osicerda costimaculata, *Moore, P. Z. S.* 1867, p. 650; *C. & S.* no. 3692.

Differs from *squalidaria* in the fore wing being pale reddish grey prominently irrorated with black; the costal patches large and olivaceous; cilia black except at middle; hind wing more orange.

Hab. Sikhim; Khásis; Nágas; Borneo. *Exp.* 26 millim.

3164. **Prionia obliquilineata**, *Warr. P. Z. S.* 1893, p. 409.

♀. Differs from *squalidaria* in having a prominent submarginal line to fore wing very highly angled below the apex; hind wing with a submarginal line, obsolescent on orange area.

Hab. Nágas; Rangoon. *Exp.* 28 millim.

SECT. II. Fore wing with veins 10 and 11 on a long stalk.

A. (Zomia). *Fore wing with the outer margin excurved at middle.*

3165. **Prionia intexta**, *Swinh. Trans. Ent. Soc.* 1891, p. 145, pl. 8, fig. 11.

♂. Grey-brown, irrorated with fuscous; vertex of head whitish.

Fore wing with black subbasal mark on subcostal nervure; a blackish patch on middle of costa, with an oblique brown band from below its inner margin; a blackish spot on costa near apex, with obliquely sinuous line from it to lower angle of cell; an oblique brown band with dentate outer edge from apex to inner margin; a brown band on margin with a black speck on it above outer angle. Hind wing with a blackish medial band from cell to inner margin; a dentate fuscous submarginal line. Underside vinous brown.

Hab. Nágas; Khásis; N. Canara. *Exp.* 26 millim.

3166. **Prionia incitata,** *Wlk. Cat.* xxiv, p. 1085; *C. & S.* no. 3694.
Zomia miscella, *Swinh. Trans. Ent. Soc.* 1891, p. 144; *Hmpsn. Ill. Het.* viii, pl. 151, fig. 16.

Olive-green, striated with fuscous. Fore wing suffused with purplish grey; a yellow-green, slightly curved antemedial band; a speck at end of cell; a postmedial band running out to an acute angle near middle of outer margin, then recurved to vein 2 and with purplish fuscous beyond it on inner area. Hind wing with the costal two-thirds orange; a spot at end of cell; the inner area violaceous grey irrorated with fuscous and with dark submarginal line. Underside reddish orange irrorated with fuscous; a cell-spot to each wing, the apex of fore wing greyish.

Hab. Throughout India. *Exp.* ♂ 36, ♀ 40 millim.

3167. **Prionia serpentinaria,** *Wlk. Cat.* xxxv, p. 1634; *C. & S.* no. 3695.

Differs from *incitata* in being pale reddish or yellowish brown, more prominently irrorated with fuscous. Fore wing with the ante- and postmedial lines olive-yellow or bright green with leaden grey inside the former and beyond the latter where it runs to the apex; the postmedial line not angled, but with a sinus between veins 3 and 7. Hind wing with the costal two-thirds reddish orange.

Hab. Ceylon. *Exp.* 40 millim.

3168. **Prionia pallida,** *Moore, P. Z. S.* 1877, p. 622; *C. & S.* no. 3696.

Differs from *incitata* in being pale reddish brown without violaceous suffusion; the postmedial line not angled, but with a rounded sinus between veins 2 and 7; no leaden-grey on basal or outer areas.

Hab. Andamans; Java. *Exp.* 34 millim.

B. *Fore wing with the outer margin straight.*

3169. **Prionia muscicolor,** *Warr. P. Z. S.* 1893, p. 407, pl. 32, fig. 25.

♂. Ochreous with slight dark irroration; a black speck at end of cell of each wing; an indistinct postmedial band bounded by two faint lines which widen their distance towards apex of fore wing.

♀. Pinkish grey with slight dark irroration. Fore wing with

an indistinct oblique line from apex with a triangular patch inside it on costal area of a faint olive tinge. Hind wing with indistinct medial line; two hyaline specks with black lunules on their outer edge beyond lower angle of cell, prominent on underside and entirely surrounded by black.

Hab. Karen Hills. *Exp.*, ♂ 26, ♀ 36 millim.

C. (Amorphozancle). *Fore wing with the outer margin excised from vein 6 to outer angle.*

3170. **Prionia discata**, *Warr. P. Z. S.* 1893, p. 408, pl. 32, fig. 23.

♂. Head, thorax, and abdomen purplish grey and black; antennæ black. Fore wing purplish grey irrorated with black; a dark patch at middle of costa; a white patch at end of cell; some olive suffusion on costal area from middle to apex. Hind wing pinkish grey with dark irroration; the costal half yellowish. Underside orange; apical area of fore wing purplish, shading to white.

Hab. Nágas. *Exp.* 32 millim.

Genus EURYMENE.

Eurymene, *Dup. Cat. Lép. Eur.* p. 220 (1844).
Plagodis, *Hübn. Verz.* p. 294 (? 1818), non descr.

Type, *E. dolobraria*, Linn., from Europe.

Range. Nearctic and Palæarctic regions; N.W. Himalayas; Sikhim.

Palpi porrect, clothed with short hair and hardly reaching beyond the frons; antennæ typically bipectinated in male, simple in female; hind tibiæ not dilated. Fore wing with the costa arched; the outer margin excurved at middle and more or less excised towards outer angle; vein 3 from near angle of cell; 7, 8, 9 stalked, from upper angle; 10 free; 11 anastomosing with 12. Hind wing with vein 3 from near angle of cell.

SECT. I. Antennæ of male bipectinated.

3171. **Eurymene inustaria**, *Moore, P. Z. S.* 1867, p. 620; *C. & S.* no. 3160.

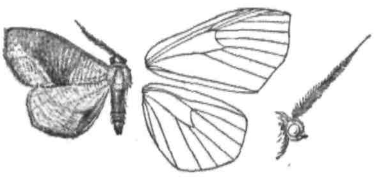

Fig. 96.
Eurymene inustaria, ♂. ½.

♂. Ochreous; head and thorax purplish black; abdomen tinged with purple; wings closely striated with chestnut. Fore wing with the costa purplish; an oblique purplish and dark postmedial band from vein 4 to inner margin; some rufous suffusion on inner part of outer margin. Hind wing with the cell and area below it not

striated; traces of a postmedial line; some purple suffusion on anal area.

Hab. Sikhim; Khásis. *Exp.* 32 millim.

SECT. II. Antennæ of male minutely serrate and fasciculate.

3172. **Eurymene reticulata**, *Warr. P. Z. S.* 1893, p. 408.

♂. Differs from *inustaria* in the head and collar being pink. Fore wing without the band and suffusion on margin. Hind wing uniformly striated, without markings and with hardly a trace of purple at anal angle.

Hab. Dalhousie; Sikhim. *Exp.* 38 millim.

Genus ANONYCHIA.

Anonychia, *Warr. P. Z. S.* 1893, p. 412.

Type, *A. rostrifera*, Warr.

Range. N.W. Himalayas; Sikhim; Khásis.

Palpi thickly fringed with hair and reaching well beyond the sharp frontal tuft; antennæ of male thickened and flattened; hind tibiæ dilated, with a fold and tuft. Fore wing somewhat produced at apex, the outer margin oblique; vein 3 from before angle of cell; 7, 8, 9 stalked, 10, 11 stalked, 10 connected or anastomosing with 8, 9. Hind wing with vein 3 before the angle of cell.

3173. **Anonychia violacea**, *Moore, Lep. Atk.* p. 279; *C. & S.* no. 3911.

♂. Head, thorax, and abdomen greyish fuscous. Fore wing grey, suffused with golden brown; a broad golden brown medial band occupying half the wing, the inner edge with two angles, the outer produced to a point on vein 5 and with two indentations above veins 2 and 3; a black speck on grey patch at end of cell; traces of a waved grey submarginal line; some dark marginal striæ. Hind wing pale grey, with speck at end of cell and traces of sinuous postmedial line, prominent on underside, which has dark irroration.

Hab. Sikhim. *Exp.* 32 millim.

3174. **Anonychia rostrifera**, *Warr. P. Z. S.* 1888, p. 330; *C. & S.* no. 3868 A.

Differs from *violacea* in the head, thorax, abdomen, and fore wing being clear grey; palpi and antennæ ochreous. Fore wing with the band edged by yellow lines, its colour almost black, paling to grey patches on costal and inner areas, its inner edge almost evenly curved, its outer produced to a longer point on vein 5 and to a short point above vein 1; no marginal striæ. Underside ochreous with dark irroration.

Hab. Murree; Thundiáni. *Exp.* 34 millim.

3175. **Anonychia grisea**, *Butl. P. Z. S.* 1883, p. 172; *C. & S.* no. 3909.

Differs from *rostrifera* in the band of the fore wing having no

dark on it, or only a narrow dark belt inside the edges, which are rufous, the inner edge almost straight, the outer with an even curve from the point to inner margin. Hind wing with the post-medial line almost straight.

Hab. N.W. Himalayas; Sikhim; Khásis. *Exp.* 32 millim.

3176. **Anonychia lativitta**, *Moore, Lep. Atk.* p. 279; *C. & S.* no. 3910

Differs from *rostrifera* in the ground-colour being red-brown; the band of fore wing very broad, occupying the medial half of wing, dark throughout, and with two curves below the angle; the margin with dark suffusion from below apex to outer angle.

Hab. N.W. Himalayas. *Exp.* 38 millim.

Genus **HETEROLOCHA**.

Heterolocha, *Led. Verh. zool-bot. Ges. Wien*, iii, p. 207 (1853).

Type, *H. laminaria*, H.-S., from Syria.

Range. Syria; Japan; Himalayas; Khásis.

Palpi porrect and hairy; antennæ of male bipectinated to near apex, with the branches long; hind tibiæ not dilated. Fore wing with the apex somewhat produced and acute; vein 3 from before angle of cell; 7, 8, 9 stalked, from before upper angle. Hind wing with vein 3 from before angle of cell.

SECT. I. Fore wing with veins 10 and 11 stalked with 7, 8, 9, anastomosing with 12, then 10 becoming coincident with 8 and 9.

A. *Palpi hardly reaching beyond the frons.*

3177. **Heterolocha phænicotæniata**, *Koll. Hügel's Kaschmir*, iv, p. 487; *Feld. Reis. Nov.* pl. 133, figs. 6, 6 A; *C. & S.* no. 3195.
Heterolocha incolorata, *Warr. Nov. Zool.* p. 449.

Straw-yellow; palpi rufous. Fore wing with the basal costal area pale pink; a pink antemedial band; both wings with a spot at end of cell and band from apex to inner margin beyond middle, expanding into a dark patch above inner margin of fore wing. The females and rarely the males have the bands of both wings much reduced and indistinct.

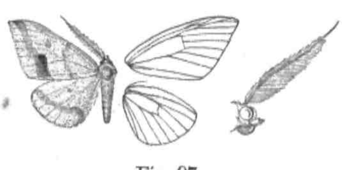

Fig. 97.
Heterolocha phænicotæniata, ♂. 1/1.

Hab. N.W. Himalayas. *Exp.* 32 millim.

B. *Palpi reaching well beyond the frons.*

3178. **Heterolocha falconaria**, *Wlk. Cat.* xxxv, p. 1665; *C. & S.* no. 3680.

Differs from *phænicotæniata* in being orange-yellow: the oblique

band usually narrower, with some dark specks on it towards apex of fore wing, without the dark patch above inner margin, and arising on hind wing from before the apex.

Hab. Punjab; N.W. Himalayas; Sikhim. *Exp.*, ♂ 36, ♀ 38 millim.

SECT. II. Fore wing with vein 10 stalked with 7, 8, 9; 11 free: palpi with the 2nd and 3rd joints long.

3179. **Heterolocha patalata**, *Feld. Reis. Nov.* pl. 132, figs. 9, 9 A; *C. & S.* no. 3194.
Marcala varians, *Swinh. Trans. Ent. Soc.* 1891, p. 487.

♂. Head, thorax, and fore wing bright green, pinkish brown, or bright pink, irrorated with fuscous; the last with dark ante- and postmedial blotches on the costa; traces of an antemedial line; a postmedial line highly angled below costa and joined by a streak from apex, then double and oblique, and sometimes with a dark blotch beyond it above inner margin. Hind wing pale ochreous, with a dark spot at end of cell and obliquely curved postmedial purple band; the apex and anal angle suffused with purplish, or with green in the green specimens. Underside with green postmedial line to fore wing joining the oblique line.

Hab. Rampur; Khásis. *Exp.* 36 millim.

SECT. III. Fore wing with veins 10 and 11 from cell, 11 anastomosing with 12.

3180. **Heterolocha desistaria**, *Wlk. Cat.* xxiv, p. 1073; *C. & S.* no. 3679.

♂. Yellowish with a vinous tinge, irrorated and suffused with fuscous. Fore wing with ante- and postmedial oblique lines, with yellowish inner edge to former and outer edge to latter, which is bent at vein 3; a diffused dark mark beyond discocellulars. Hind wing with traces of spot at end of cell and medial line.

Hab. "N. India." *Exp.* 30 millim.

Genus **VENILIA**.

Venilia, *Dup. Cat. Lép. Eur.* p. 266 (1844).
Pseudopanthera, *Hübn. Verz.* p. 295 (? 1818), non descr.
Therapis, *Hübn. Verz.* p. 287.
Caustoloma, *Led. Verh. zool.-bot. Ges. Wien*, iii, p. 209 (1853).

Type, *V. macularia*, Linn., from Europe.

Range. Europe; Syria; Amur; Himalayas.

Palpi slight, hairy, and reaching beyond the frons; hind tibiæ not dilated. Fore wing somewhat produced at apex; the outer margin excurved at middle; vein 3 from before angle of cell; 7, 8, 9 stalked, from before upper angle; 10 free. Hind wing with vein 3 from before angle of cell.

In the typical section vein 11 of fore wing anastomoses with 12; antennæ of male with appressed serrations.

SECT. II. Fore wing with vein 11 free.

A. (Caustoloma). *Antennæ of male bipectinate; hind wing emarginate.*

B. *Antennæ of male with appressed serrations; hind wing with the outer margin rounded.*

3181. **Venilia himalayica**, *Koll. Hügel's Kaschmir*, iv, p. 485; *C. & S.* no. 3197.

Hyperythra ennomosaria, *Wlk. Cat.* xxvi, p. 1498; *C. & S.* no. 3145.

Bright yellow; head and collar chocolate-brown; wings irrorated with fuscous. Fore wing with the base of costa chocolate; chocolate strigæ and one medial and two postmedial spots on costa; a medial patch on inner margin; traces of ante- and postmedial lines. Hind wing prominently irrorated; a slightly sinuous medial line; cilia of both wings chocolate. Underside with prominent rufous specks conjoined in parts into patches.

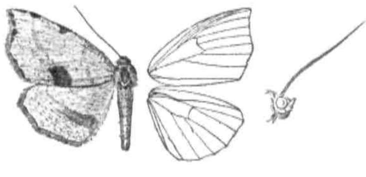

Fig. 98.
Venilia himalayica, ♂. 1/1.

Hab. Dharmsála; Sikhim. *Exp.* 36 millim.

Genus LOXASPILATES.

Loxaspilates, *Warr. P. Z. S.* 1893, p. 413.

Type, *L. obliquaria*, Moore.

Range. Afghanistan; Himalayas.

Palpi slender, porrect, and hairy, reaching beyond a short sharp frontal tuft; antennæ thickened and flattened in male; hind tibiæ dilated. Fore wing produced and acute at apex; vein 3 from before angle of cell; 5 from above middle of discocellulars, which are angled; 7, 8, 9, 10 stalked, from before upper angle; 11 free. Hind wing with vein 3 from before angle of cell; the discocellulars angled.

3182. **Loxaspilates obliquaria**, *Moore, P. Z. S.* 1867, p. 649; *C. & S.* no. 3681.

Ochreous; palpi fuscous at sides; abdomen irrorated with fuscous. Fore wing irrorated with fuscous; the costa blackish at base; black spots on discocellulars, origin of vein 2, on vein 1 before middle, and sometimes on the subcostals; an oblique postmedial line with brownish suffusion beyond it; a slightly sinuous submarginal band of brownish suffusion, with four black specks on it near apex and two towards outer angle, or the series may be more or less complete; a marginal series of specks. Hind wing

ochreous white, the inner area irrorated with fuscous and crossed by a short medial band; a marginal series of specks.

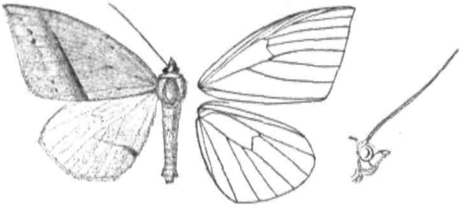

Fig. 99.—*Loxaspilates obliquaria*, ♂. 1/1.

A yellow variety has the markings obsolescent and very little fuscous irroration.

Hab. Afghanistan; N.W. Himalayas; Sikhim. *Exp.* 42–54 millim.

3183. **Loxaspilates hastigera**, *Butl. Ill. Het.* vii, p. 112, pl. 137, figs. 4, 5.

Differs from *obliquaria* in the postmedial line of fore wing being sinuous; the series of black spots very prominent and dentate; hind wing with the irroration and band on inner area almost obsolete.

A yellow variety has the series of black spots on fore wing small and rounded. Another variety is thickly irrorated with black spots on fore wing and fuscous on hind wing; fore wing much suffused with fuscous; the spots on the lines large and rounded, the marginal series large; patagia with black spots.

Hab. Afghanistan; Dharmsála; Sikhim. *Exp.* 40 millim.

3184. **Loxaspilates dispar**, *Warr. P. Z. S.* 1893, p. 413, pl. 30, fig. 14.

♀. Chestnut. Fore wing with diffused fuscous antemedial, postmedial, and submarginal somewhat oblique lines; the postmedial with a large semicircular fuscous patch on its outer edge, the submarginal sinuous and with a dark spot at vein 5; a dark spot at end of cell. Hind wing much paler, with indistinct spot at end of cell, postmedial obliquely curved line, and marginal series of specks.

Hab. Sikhim, 13,000 feet. *Exp.* 40 millim.

Genus **STENORUMIA**, nov.

Type, *S. ablunata*, Guen.

Range. Himalayas.

Palpi slender, roughly scaled, and not reaching beyond the frons; antennæ of male with appressed serrations; hind tibiæ not dilated. Fore wing with the apex somewhat produced; the outer margin erect; vein 3 from before angle of cell; 7, 8, 9 stalked, from

upper angle; 11 anastomosing with 12, then with 10, which anastomoses with 8 and 9. Hind wing with vein 3 from before angle of cell; 6 and 7 stalked.

3185. **Stenorumia duplicilinea**, n. sp.

♂. Pale yellow or ochreous. Fore wing irrorated with reddish fuscous; a curved line from apex to base and oblique line from apex to middle of inner margin, the areas immediately above the former and beyond the latter without irroration, which is thickest between the lines.

Hab. Dalhousie (*Harford*). *Exp.* 42 millim. Type in B.M.

3186. **Stenorumia ablunata**, *Guen. Phal.* i. p. 110; *C. & S.* no. 3664.
Opisthograptis pangiaria, *Feld. Reis. Nov.* pl. 123, fig. 4; *C. & S.* no. 3666.

Differs from *duplicilinea* in being lemon-yellow without fuscous irroration. Fore wing with the costa rufous; a fuscous spot at end of cell; the curved line from below the costa and before apex to inner margin near base; the outer line less oblique. Hind wing with a postmedial line between veins 2 and 4; cilia of both wings reddish.

Hab. N.W. Himalayas. *Exp.* 26 millim.

3187. **Stenorumia longipennis**, *Warr. P. Z. S.* 1893, p. 403.

♂. Bright lemon-yellow. Fore wing with slight rufous irroration; very oblique rufous lines from costa beyond middle and from apex. Hind wing much paler, with traces of an oblique postmedial series of dark specks.

Hab. Sikhim, 10,000 feet. *Exp.* 42 millim.

Genus **RUMIA**.

Rumia, *Dup. Hist. Nat., Nocturnes*, iv, 2, p. 117 (1829).
Opisthograptis, *Hübn. Verz.* p. 292 (? 1818), non descr.

Type, *R. luteolata*, Linn.

Range. Europe; Himalayas.

Palpi slight, hairy, and usually reaching beyond the frons; antennæ of male with appressed serrations; hind tibiæ not dilated. Fore wing of male with fovea; vein 3 from angle of cell; 7, 8, stalked, from before upper angle; 10 absent. Hind wing with vein 3 from just before angle of cell.

SECT. I. Palpi reaching beyond the frons; fore wing with vein 11 free.

3188. **Rumia cratægata**, *Linn. Faun. Suec.* p. 336; *Syst. Nat.* i, 2, p. 868.
Phalæna luteolata, *Linn. Syst. Nat.* ed. x, p. 525.
Rumia mimulina, *Butl. P. Z. S.* 1886, p. 388; *C. & S.* no. 3665.

Bright sulphur-yellow; palpi rufous. Fore wing with rufous basal patch on costa; two antemedial costal spots with dusky waved lines from them to inner margin, on which there is a rufous

more irrorated with rufous; a well-marked medial rufous band with waved edges and angled below costa of fore wing. Hind wing with prominent marginal band with waved edges.

Hab. Sikhim; Khásis; Travancore. *Exp.* 26 millim.

3195. **Corymica specularia**, *Moore, P. Z. S.* 1867, p. 649, pl. 33, fig. 11; *C. & S.* no. 3684.
Thiopsyche pryeri, *Butl. A. M. N. H.* (5) i, p. 393.
Corymica vitrigera, *Butl. Ill. Het.* vii, p. 101, pl. 135, fig. 14.
Corymica exiguinota, *Hmpsn. Ill. Het.* viii, p. 114, pl. 151, fig. 12.

Differs from *arnearia* in being less irrorated with rufous. Fore wing with the apical patch large and obsolescent on upperside; in *exiguinota* from the Nilgiris small and prominent on both sides.

The forms *pryeri* from Japan and *vitrigera* from Dhármsála are paler, with the two spots on inner margin of fore wing large and conjoined, in the latter enclosing a yellow spot.

Hab. Japan; Dharmsála; Sikhim; Nilgiris; Ceylon. *Exp.*, ♂ 30–34, ♀ 38 millim.

Genus ILICRINIA.

Eilicrinia, *Hübn. Verz.* p. 287 (? 1818).
Pareilicrinia, *Warr. Nov. Zool.* p. 462 (1894).

Type, *I. cordiaria*, Hübn.

Range. S. Europe; Syria; N. Asia; China; Japan; N.W. Himalayas; Sikhim; Assam.

Palpi hairy and not reaching beyond the frons; antennæ almost simple; hind tibiæ not dilated. Fore wing with the costa arched towards apex; vein 3 from just before angle of cell; 7, 8, 9 stalked, from just before upper angle; 10 and 11 stalked. Hind wing with vein 3 from angle of cell.

SECT. I. (*Ilicrinia*). Fore wing with the outer margin excised below apex.

3196. **Ilicrinia cordiaria**, *Hübn. Beitr.* ii, p. 31.
Ennomos animata, *Fisch. v. Rösl. Schmett.* p. 45.
Eilicrinia animaria, *Herr.-Schäffer, Schmett. Eur.* iii, fig. 364.
Elicrinia nuptaria, *Brem. Lep. Ost-Sib.* p. 80, pl. vii, fig. 5.
Eilicrinia signigera, *Butl. Ill. Het.* vii, p. 112, pl. 137, fig. 3.

Brood I. Pale grey, slightly irrorated with fuscous. Fore wing with traces of a curved antemedial line; a large red-brown patch on discocellulars with darker outline and centre; an indistinct oblique, slightly sinuous postmedial line arising from a brown spot on costa; the costa brown at middle; a brown patch on margin and cilia at the excision. Hind wing with indistinct speck at end of cell and waved postmedial line.

Brood II. Ochreous yellow, with the postmedial line of hind wing very indistinct.

The form *nuptaria* from the Amur and Japan is pale lemon-

yellow; *signigera* from Kúlú, of which only the ochreous form is known, has the discocellular patch of fore wing narrow and no spot on the postmedial line.

Hab. S. Europe; Syria; Kirghistan; Amur; Japan; Kulu. *Exp.* 36 millim.

SECT. II. (*Parilicrinia*). Fore wing with the costal and outer margins evenly curved.

3197. **Ilicrinia flava,** *Moore, Lep. Atk.* p. 233, pl. 8, fig. 2; *C. & S.* no. 3231.

♂. Bright yellow, irrorated with a few black scales. Fore wing with an obliquely curved antemedial rufous line, obsolescent towards costa; a dark spot with white centre at end of cell; an almost straight postmedial rufous line; a rufous patch on margin below apex. Hind wing with black speck at end of cell and straight rufous postmedial line.

Hab. Chekiang, China; Sikhim; Khásis; Nágas. *Exp.* 40 millim.

Genus EURYTAPHRIA.

Eurytaphria, *Warr. P. Z. S.* 1893, p. 409.

Type, *E. undilineata*, Warr.

Range. Sikhim; Travancore; Burma.

Palpi reaching beyond the frons and thickly scaled; hind tibiæ not dilated. Fore wing with the apex rounded, vein 3 from before angle of cell; 5 from above middle of discocellulars; 7, 8, 9, 10, 11 stalked, from before upper angle; 11 touching 12, then giving off 10 to anastomose with 8 and 9. Hind wing with the outer margin crenulate; vein 3 from before angle of cell.

SECT. I. Antennæ bipectinated, with the branches shorter in the female than the male.

3198. **Eurytaphria undilineata,** *Warr. P. Z. S.* 1893, p. 410.

Grey, irrorated with fuscous and slightly suffused with rufous. Fore wing with the disk more prominently suffused with rufous; some fuscous at base of costa; a fuscous antemedial line angled below costa and median nervure; a speck at end of cell; a postmedial line highly excurved at middle, where it sends two dentate marks to the outer margin, and with a subapical speck beyond it. Hind wing with a speck at end of cell and curved postmedial series of specks on the veins;

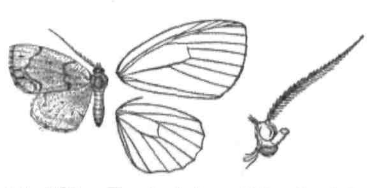

Fig. 102.—*Eurytaphria undilineata*, ♂ $\frac{1}{1}$.

both wings with dark marginal line and the cilia chequered grey and fuscous.

Hab. Sikhim; Travancore; Toungoo. *Exp.* 24 millim.

SECT. II. Antennæ of male serrate, of female simple.

3199. **Eurytaphria bisinuata**, n. sp.

♂. Differs from *undilineata* in being darker and more irrorated with black. Fore wing with no rufous suffusion; the postmedial line further from the margin, evenly sinuous, and not excurved at the middle. Hind wing with the postmedial line nearer the end of cell.

♀. With some black beyond the inner half of postmedial line of fore wing. (Described as the female of the last species.)

Hab. Sikhim (*Elwes*). *Exp.*, ♂ 30, ♀ 36 millim. Type in coll. Elwes.

Genus PEETULA.

Peetula, *Moore, Lep. Atk.* p. 230 (1887).

Type, *P. exanthemata*, Moore.

Range. N.W. Himalayas; Sikhim.

Palpi hairy and hardly reaching beyond the frons; antennæ of male bipectinated to apex; hind tibiæ not dilated. Fore wing with the apex slightly produced and acute; vein 3 from before angle of cell; 7, 8, 9, 10 stalked, from before upper angle; 11 anastomosing with 12 and then with 10 or running close along it. Hind wing with vein 3 from before angle of cell.

SECT. I. Hind wing with the margin crenulate from the apex to vein 4.

3200. **Peetula stramineata**, *Warr. P. Z. S.* 1888, p. 319; *C. & S.* no. 3158 A.

♂. Yellow, slightly suffused with fulvous; the wings prominently irrorated with ferruginous spots. Fore wing with indistinct curved ante- and postmedial lines; a spot at end of cell. Hind wing with indistinct straight medial line, sometimes obsolete except towards inner margin; a curved postmedial line. Underside with the postmedial line more prominent.

Hab. Thundiáni, Punjab. *Exp.* 50 millim.

SECT. II. Hind wing with the outer margin evenly rounded.

3201. **Peetula exanthemata**, *Moore, Lep. Atk.* p. 231; *C. & S.* no. 3203.

♂. Pale yellow. Fore wing with slight traces of numerous lines on the basal half; large antemedial, medial, and apical irregular pink patches with darker edges; some pink submarginal specks and a large spot on inner margin. Hind wing with

some small submarginal pink spots, one below the apex being large.

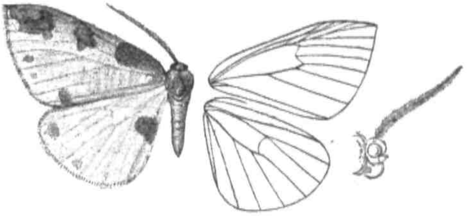

Fig. 103.—*Peetula exanthemata*, ♂. ¾.

Hab. Sikhim. *Exp.* 54 millim.

Genus XENOGRAPHIA.

Xenographia, *Warr. P. Z. S.* 1893, p. 404.

Type, *X. lignataria*, Warr.

Range. Sikhim; Khásis; Nágas.

Palpi upturned and fringed with hair. Fore wing with the apex somewhat produced; the outer margin evenly curved; vein 3 from before angle of cell; 7, 8, 9, 10 stalked, from before upper angle. Hind wing with vein 3 from before angle of cell.

SECT. I. Palpi with the 3rd joint minute; antennæ minutely serrate in male; hind tibiæ somewhat dilated; hind wing with the cilia non-crenulate.

3202. **Xenographia lignataria**, *Warr. P. Z. S.* 1893, p. 404.

♂. Yellowish white; palpi black; abdomen with paired black specks on proximal segments; wings irrorated with rufous. Fore wing with slightly waved and curved antemedial lines; a rufous speck at end of cell; a postmedial oblique line curved below costa and with a crenulate line beyond it, the distance between them increasing at costa; a diffused oblique rufous fascia from apex. Hind wing with two medial lines obsolete on costal area, the outer minutely waved; both wings with marginal series of black specks.

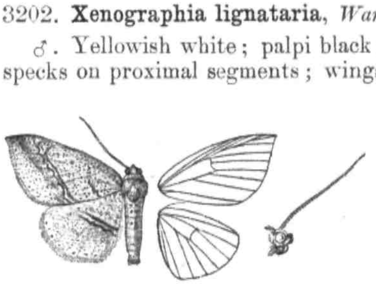

Fig. 104.—*Xenographia lignataria*, ♂. ¾.

Hab. Sikhim. *Exp.* 38 millim.

SECT. II. Palpi with the 3rd joint longer and porrect; antennæ of male annulate; hind tibiæ not dilated; hind wing with the cilia slightly crenulate.

3203. **Xenographia semifusca**, n. sp.

♂. Head, thorax, and abdomen dark red-brown; vertex of

head and antennæ fulvous; wings irrorated with orange, an suffused with dark rufous to beyond cell; the outer half dar rufous with some orange on apical area of fore wing. Fore win with indistinct irregular antemedial line; both wings with blac spot at end of cell and crenulate postmedial line with white speck on it.

Hab. Nágas, 6000 feet (*Doherty*). *Exp.* 38 millim. Type i coll. Elwes.

3204. **Xenographia adustata**, *Moore, Lep. Atk.* p. 229, pl. 8, fig. 20
C. & S. no. 3175.

♂. Head ochreous; thorax and abdomen fuscous brown. For wing with the basal area suffused with fuscous brown; the medi area ochreous with fulvous and brown irroration, this area bein contracted below the cell; a black cell-spot; the outer area fuscou brown, having ochreous patches irrorated with fulvous on cost before apex and on outer margin below apex and above oute angle. Hind wing with the basal area and beyond the postmedi line suffused with fuscous; the medial and marginal areas ochreou with fulvous and dark irroration; a black cell-speck.

Hab. Khásis. *Exp.* 28 millim.

Genus **SPILOPERA**.

Spilopera, *Warr. P. Z. S.* 1893, p. 402.
Erinnys, *Warr. P. Z. S.* 1893, p. 415 (præocc.).
Callerinnys, *Warr. Nov. Zool.* p. 447 (1894).

Type, *S. debilis*, Butl., from Japan.

Range. Japan; Sikhim; Assam; Burma; Ceylon.

Palpi porrect, hairy, and reaching beyond the frons; antenn of male nearly simple. Fore wing with the outer margin usuall angled at vein 4; vein 3 from near angle of cell; 7, 8, 9 stalke from near upper angle; 10 present. Hind wing with the oute margin angled at vein 4; 3 from near angle of cell.

SECT. I. (*Spilopera*). Fore wing with veins 10 and 11 free; ma with the hind tibiæ not dilated.

3205. **Spilopera gracilis**, *Butl. A. M. N. H.* (5) iv, p. 371.
Spilopera umbrata, *Warr. P. Z. S.* 1893, p. 403.

Fig. 105.—*Spilopera gracilis*, ♂. 1/1.

Pale ochreous, irrorated wit fuscous; the head yellower. For wing with indistinct fuscou medial line incurved in cell; black speck in cell; an obliq postmedial fuscous band; a da patch on outer margin belo apex. Hind wing with bla spot at end of cell and oblique postmedial fuscous band; a da

patch on outer margin below apex. Hind wing with black spot at end of cell and oblique postmedial line. Underside with the postmedial line rufous.

Hab. Japan; Khásis; Margharita, Assam. *Exp.*, ♂ 34, ♀ 42 millim.

SECT. II. (*Callerinnys*). Fore wing with vein 10 stalked with 7, 8, 9; 11 often anastomosing with 12.

A. *Outer margin of each wing angled at vein 4; hind tibiæ of male dilated, with a fold and tuft.*

3206. **Spilopera fuscomarginata,** *Warr. P. Z. S.* 1893, p. 407.

♀. Reddish ochreous, irrorated with fuscous. Fore wing with indistinct waved antemedial line; annulus at end of cell; an oblique white line from apex of fore wing to inner margin of hind wing beyond middle, with a chestnut band inside it with irregular inner edge on fore wing, the area beyond it chestnut, with a pale patch at middle of outer area of each wing; hind wing with black spot at end of cell. Underside without the chestnut areas and with black specks on the postmedial line.

Hab. Sikhim. *Exp.* 32 millim.

3207. **Spilopera anomala,** *Warr. P. Z. S.* 1893, p. 406.

♀. Purplish grey, suffused with chestnut and irrorated with black. Fore wing with indistinct antemedial series of black specks; a spot with white centre at end of cell of each wing; an oblique postmedial black and white line angled below apex of fore wing, and with black patches before and beyond it above inner margin; the subapical outer area of fore wing chestnut. Underside paler, with black specks on the postmedial line.

Hab. E. Pegu. *Exp.* 38 millim.

3208. **Spilopera hepaticata,** *Swinh. Trans. Ent. Soc.* 1894, p. 200.

♂. Reddish brown, largely suffused with purplish leaden grey. Fore wing with indistinct brown antemedial line angled in cell: a speck at end of cell; two sinuous postmedial lines, the inner indistinct; a very ill-defined and broken submarginal band. Hind wing with traces of antemedial line; speck at end of cell; postmedial line excurved at lower angle of cell; traces of a submarginal line. Underside with speck at end of cell of each wing; a postmedial line sinuous on fore wing, curved on hind wing.

Hab. Khásis. *Exp.* 35 millim.

3209. **Spilopera combusta,** *Warr. P. Z. S.* 1893, p. 415.

Ochreous, irrorated with black and suffused with rufous. Fore wing with dark spot at end of cell and below origin of vein 2; an oblique sinuous postmedial line, with the area beyond it suffused

with rufous and fuscous except at middle. Hind wing with irregularly waved medial line, with rufous suffusion on its inner edge and a white patch beyond its middle; a nearly straight postmedial line with the area beyond it suffused with rufous. Underside paler, with dark rufous patches beyond the postmedial line below apex and on inner area of fore wing and on the whole apical area of hind wing, below which it narrows.

The Ceylon specimen has the basal half of both wings blotched with rufous.

Hab. Sikhim; Ceylon. *Exp.* 35 millim.

3210. **Spilopera ferrifera**, *Moore, Lep. Atk.* p. 255, pl. viii, fig. 17; *C. & S.* no. 4002.

♂. White, irrorated with brown; frons rufous; abdomen with a rufous band on second segment. Fore wing with the costa rufous; indistinct subbasal and medial brown bands, the former with dark specks on the veins beyond it, the latter with slight streaks on the veins; outer area rufous, broken by patches of the ground-colour at apex and middle, its inner edge sinuous and with traces of sinuous postmedial and submarginal white lines on it. Hind wing with indistinct antemedial band and series of specks; outer area as in fore wing. Underside with indistinct sinuous blackish antemedial band and broad black postmedial band with waved edges.

Hab. Sikhim. *Exp.* 30 millim.

3211. **Spilopera ? divaricata**, *Moore, Lep. Atk.* p. 250, pl. 8, fig. 15; *C. & S.* no. 3518.

♂. Ochreous yellow. Fore wing with outwardly oblique ochreous-brown medial band, which meets at inner margin a nearly erect and similar postmedial band, beyond which are two postmedial and one submarginal sinuous lines, all conjoined towards inner margin and the outer two not reaching the costa; a marginal brown line. Hind wing with a band from near base of inner margin curving up to the costa, then down to the inner margin beyond middle, beyond it and joined to it at middle being two other bands, the outer merging into a purplish-grey apical patch; a dark marginal line; the bands of both wings traversed by a whitish line. (Head, abdomen, and legs wanting.)

Hab. Khásis. *Exp.* 44 millim.

B. *Fore wing with the outer margin evenly curved; hind tibiæ not dilated.*

3212. **Spilopera obliquilinea**, *Moore, Lep. Atk.* p. 229; *C. & S.* no. 3177.
Leptomiza straminea, *Warr. P. Z. S.* 1893, p. 406.

♀. Ochreous, irrorated with rufous. Fore wing with annulus at end of cell; a postmedial line highly angled to below apex, then oblique to inner margin and sending a spur inwards to lower

angle of cell; an oblique line beyond it, the space between the two rufous; a submarginal series of specks. Hind wing with the double lines medial, filled in with rufous, and widest at costa; a submarginal series of specks.

Hab. Sikhim; Bhután; Khásis; Karen Hills. *Exp.* 34 millim.

Genus **HYPULIA**.

Hypulia, *Swinh. Trans. Ent. Soc.* 1894, p. 205.

Type, *H. dirempta*, Wlk.

Range. Sikhim; Khásis; Burma; Singapore; Borneo.

Palpi slight and upturned, the 2nd joint clothed with hair. Antennæ of male ciliated; frenulum absent, the costa of the fore wing with a fold, of the hind wing arched at base. Fore wing with the costa nearly straight; the apex produced and acute; the outer margin crenulate from apex to vein 4; vein 3 from before angle of cell; 7, 8, 9 stalked, from before upper angle; 10 and 11 stalked and anastomosing with 12. Hind wing with the outer margin rounded; vein 3 from before angle of cell; male with the hind wing elliptical; a large patch of long silky scales on underside of apical area.

3213. **Hypulia dirempta,** *Wlk. Cat.* xxii, p. 595; *C. & S.* no. 3479.
Nadagara impervisata, *Wlk. Cat.* xxvi, p. 1687.

Pale dull green; fore wing with brown specks on the costa; both wings with a rufous marginal line; the cilia white, rufous between veins 2 and 6 of fore wing. Underside with the inner area of fore wing and whole of hind wing thickly striated with fuscous.

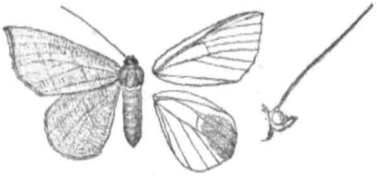

Fig. 106.—*Hypulia dirempta*, ♂. ½.

Some specimens are reddish ochreous, with a black speck at end of cell of each wing; an indistinct submarginal series of black specks.

Hab. Sikhim; Khásis; Moulmein; E. Pegu; Singapore; Borneo. *Exp.* 34 millim.

Genus **NADAGARA**.

Nadagara, *Wlk. Cat.* xxiv, p. 1093 (1862).

Type, *N. vigaia*, Wlk.

Range. Japan; Khásis; Nilgiris; Ceylon; Andamans; Borneo.

Palpi with the 2nd joint hairy and reaching beyond the frontal tuft, the 3rd porrect; antennæ of male simple; hind tibiæ not dilated. Fore wing produced and acute at apex; vein 3 from angle of cell; 7, 8, 9 stalked, from before the angle; 10 given off from 11. Hind wing with vein 3 from angle of cell; cilia of both wings slightly crenulate.

3214. **Nadagara vigaia**, *Wlk. Cat.* xxiv, p. 1093; *Hmpsn. Ill. Het.* viii, pl. 156, fig. 15; *C. & S.* no. 3887.

Grey, suffused with pale brown and irrorated with dark brown; head fulvous. Fore wing with indistinct curved antemedial line, sometimes with dark specks on it; a dark speck at end of cell; an oblique dark line from costa before apex to middle of inner margin, with diffused brown on its inner edge and white on its outer. Hind wing with the line medial; traces of a curved submarginal line; cilia of both wings brown.

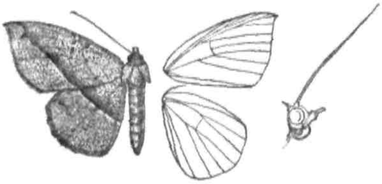

Fig. 107.—*Nadagara vigaia*, ♂. 1/1.

Hab. Nilgiris; Ceylon. *Exp.* 40 millim.

3215. **Nadagara comprensata**, *Wlk. Cat.* xxiv, p. 1095.

♂. Differs from *vigaia* in having a well-developed antemedial line to fore wing angled in the cell; the outer line better defined and less oblique from before the apex of fore wing to beyond middle of inner margin of hind wing and curved near the costa of fore wing; a well-defined marginal line.

Hab. Andamans; Borneo. *Exp.* 32 millim.

3216. **Nadagara inordinata**, *Wlk. Cat.* xxiv, p. 1094.

Differs from *vigaia* in the ground-colour of the wings being more variegated with white; the oblique line with the chestnut inside and the black irroration beyond it more prominent and with traces of a line beyond it becoming well marked on hind wing.

Hab. Khásis; Borneo. *Exp.* 32 millim.

Genus **RHYNCHOBAPTA**, nov.

Type, *R. cervinaria*, Moore.

Range. Japan; Sikhim; Khásis.

Differs from *Nadagara* in the fore wing having veins 7, 8, 9, 10 stalked. Hind wing with the outer margin slightly angled at vein 4; vein 3 from before angle.

SECT. I. Antennæ of male bipectinated with short branches to two-thirds length.

3217. **Rhynchobapta cervinaria**, *Moore, Lep. Atk.* p. 233; *C. & S.* no. 3230.

♂. Purplish grey, irrorated with black, and with a slight ochreous

tinge. Fore wing with nearly straight ante- and postmedial lines, with rufous beyond the former and inside the latter; a black speck at end of cell; some rufous suffusion on margin below an oblique streak from apex. Hind wing with black speck at end of cell and nearly straight postmedial line with rufous inside it.

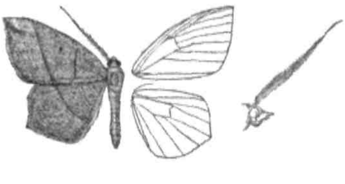

Fig. 108.
Rhynchobapta cervinaria, ♂. ½.

♀. Clearer grey, with the rufous more prominent.

Hab. Sikhim; Khásis. *Exp.*, ♂ 35, ♀ 44 millim.

SECT. II. Antennæ of male thickened and flattened.

3218. **Rhynchobapta flaviceps**, *Butl. Trans. Ent. Soc.* 1881, p. 419.

Violaceous grey, with slight darker striation; the head and antennæ fulvous. Fore wing with some fulvous on costa; an indistinct rufous line from apex of fore wing to inner margin of hind wing above anal angle; the margin and cilia rufous, the latter white-tipped. Underside white, with the costal half of fore wing suffused with fulvous to the indistinct curved postmedial line which crosses both wings. Abdomen with the anal tuft fulvous, a black dorsal spot before it in the Khási male.

Hab. Japan; Khásis. *Exp.* 30 millim.

Genus LUXIARIA.

Luxiaria, *Wlk. Cat.* xx, p. 231 (1860).
Bithiodes, *Warr. Nov. Zool.* p. 439 (1894).
Probithia, *Warr. Nov. Zool.* p. 440.

Type, *L. phyllosaria*, Wlk.

Range. Japan; Himalayas; Western Ghats; Ceylon; Khásis; Burma; Sumatra; Java; Borneo.

Palpi obliquely porrect, the 2nd joint roughly scaled; antennæ minutely ciliated; hind tibiæ of male dilated and with a longitudinal fold containing a ridge of silken hair. Fore wing produced and somewhat acute at apex; vein 3 from angle of cell; 7, 8, 9 stalked, from upper angle; 10 absent; 11 free.

SECT. I. (*Bithiodes*). Hind wing of male with the cell short, the costal and subcostal nervures being much arched; vein 3 from before angle of cell; the outer margin crenulate and not angled at vein 4.

3219. **Luxiaria contigaria**, *Wlk. Cat.* xxii, p. 754; *C. & S.* no. 3926.
Acidalia turpisaria, *Wlk. Cat.* xxiii, p. 771; *Moore, Lep. Ceyl.* iii, pl. 201, fig. 10; *C. & S.* no. 3961.
Acidalia inexactata, *Wlk. Cat.* xxiii, p. 770.
Acidalia subrasata, *Wlk. Cat.* xxiii, p. 773.

Acidalia submonstrata, *Wlk. Cat.* xxiii, p. 772.
Acidalia tephrosaria, *Moore, P. Z. S.* 1867, p. 643: *C. & S.* no. 3950.
Luxiaria fasciosa, *Moore, Lep. Atk.* p. 254; *C. & S.* no. 4007.
Luxiaria intensata, *Moore, Lep. Atk.* p. 254; *C. & S.* no. 4008.
Luxiaria hypaphanes, *Hmpsn. Ill. Het.* viii, p. 125, pl. 153, figs. 7, 14.

♂. Yellowish brown or purplish grey-brown, irrorated with fuscous; head rufous; both wings with traces of a spot at end of cell; a sinuous medial line; postmedial and submarginal waved lines, which are prominent and rufous on underside, the two outer being conjoined into a diffused rufous and brown band; postmedial and marginal series of specks on upperside; underside with the apex of fore wing often whitish.

♀. The ground-colour of upper and undersides much paler.

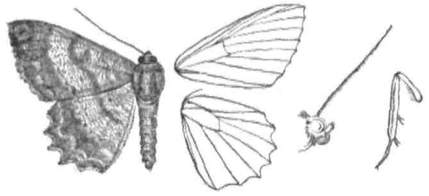

Fig. 109.—*Luxiaria contigaria*, ♂. ½.

The form *hypaphanes* from the Nilgiris is violaceous grey in both sexes, fore wing with the apex more falcate, and with three dark marks on the costa; the ground-colour of underside whitish. One male has a dark blotch on inner margin of fore wing beyond middle. *Submonstrata* from the Khásis and Borneo is similar, but with rounded apex to fore wing.

Hab. Dharmsála; Sikhim; Khásis: Mahableshwar; Nilgiris; Ceylon; Sumatra; Borneo. *Exp.* 38–46 millim.

SECT. II. Hind wing of male with the costal and subcostal nervures slightly arched; the cell normal and with vein 3 from the angle.

A. (Probithia). *Outer margin of hind wing angled at vein 4 and non-crenulate.*

3220. **Luxiaria exclusa,** *Wlk. Cat.* xxi, p. 320; *Moore, Lep. Ceyl.* iii, pl. 202, fig. 5, and pl. 215, fig. 4; *C. & S.* no. 4006.
Hemerophila prætereuns, *Wlk. Cat.* xxi, p. 320.
Acidalia imprimata, *Wlk. Cat.* xxiii, p. 771.
Macaria obstataria. *Wlk. Cat.* xxiii, p. 928.
Bithia lignaria, *Wlk. Cat.* xxxv, p. 1600.

Both sexes coloured as in the female of *contigaria*. Fore wing with a dark lunule on the costa at the postmedial series of specks, which is then very oblique and continued on hind wing as an antemedial line; hind wing with the series of specks medial

instead of postmedial. Underside ochreous, with the markings prominent, rufous, and with waved postmedial and submarginal bands.

Some specimens are suffused with brown and one has the outer area of both wings brown.

Hab. Sikhim; Khásis; N. Canara; Ceylon; Burma; Borneo; Java. *Exp.* 40–46 millim.

3221. **Luxiaria postvittata,** *Wlk. Cat.* xxiii, p. 759.
Macaria honoraria, *Wlk. Cat.* xxiii, p. 928; *Moore, Lep. Ceyl.* iii, pl. 205, fig. 12; *C. & S.* no. 3640.
Macaria permotaria, *Wlk. Cat.* xxiii. p. 929.

Differs from *exclusa* in the fore wing having a black spot at middle of costa and two towards apex; hind wing with the medial line prominent and black on inner half. Underside with the postmedial line of both wings straight and oblique.

Hab. Sylhet; Ceylon. *Exp.* 32 millim.

B. *Outer margin of hind wing angled at vein 6 and non-crenulate.*

3222. **Luxiaria obliquata,** *Moore, Lep. Atk.* p. 254; *C. & S.* no. 4009.

Differs from *exclusa* in the fore wing having the medial line and band not so oblique; two short submarginal bands instead of a pale waved line on a band; no dark postmedial line on costa. Hind wing with the antemedial line and postmedial band not so oblique; two marginal bands. Underside with postmedial series of specks to both wings instead of waved line.

Hab. Sikhim; Khásis. *Exp.* 50 millim.

C. (Luxiaria). *Outer margin of hind wing rounded and non-crenulate.*

3223. **Luxiaria phyllosaria,** *Wlk. Cat.* xx, p. 82; *C. & S.* no. 4010.
Luxiaria alfenusaria, *Wlk. Cat.* xx, p. 232.

Orange-yellow. Fore wing with small antemedial and medial dark spots on costa and large grey-brown postmedial patch; the outer one with a purplish tinge except at apex. Hind wing with broad submarginal purplish band. Underside with the marginal band of fore wing and submarginal of hind wing rich chocolate-brown, with two indistinct waved lines on it.

The Bornean and Javan form is greyer.

Hab. Khásis; Borneo; Java. *Exp.* 40 millim.

Genus CASSYMA.

Cassyma, *Guen. Phal.* ii, p. 17 (1857).
Eutæa, *Wlk. Cat.* xx, p. 217 (1860).
Nustidava, *Wlk. Cat.* xxvi, p. 1572 (1862).

Type, *C. quadrinata*, Guen., from Borneo.
Range. Sikhim; Sylhet; Borneo; Java.

♂. Differs from *Luxiaria* in the abdomen being very long and slender. Fore wing narrower and more produced. Hind wing with the outer margin angled at veins 4 and 6 and with long cilia between those points and at anal angle; vein 8 well separated from 7, which is arched, the cell being short and veins 6 and 7 running close along each other to near the margin; the disco-cellulars very short, vein 4 being much arched and running close along 6 and 7, then depressed near the margin.

3224. **Cassyma heteroneurata,** *Guen. Phal.* ii, p. 19.
Eutæa personaria, *Wlk. Cat.* xx, p. 217.
Nustidava unilineata, *Wlk. Cat.* xxvi, p. 1573.

♂. Ochreous, irrorated with brown. Fore wing with three dark specks on the costa; traces of a medial oblique line; an oblique line from below apex to middle of inner margin, towards

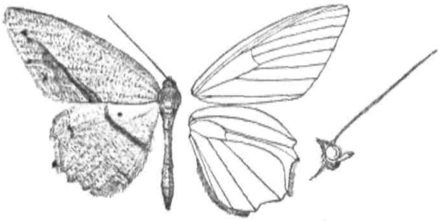

Fig. 110.—*Cassyma heteroneurata*, ♂. ½.

which it becomes double; some dark specks on margin below apex. Hind wing with speck at end of cell; a prominent oblique medial band and traces of a sinuous submarginal line.

Hab. Sikhim; Sylhet; Java; Borneo. *Exp.* 40–52 millim.

Genus ZAMARADA.

Zamarada, *Moore, Lep. Ceyl.* iii, p. 432 (1887).

Type, *Z. translucida*, Wlk., from Borneo.

Range. Throughout Africa; Assam Hills; Ganjam; Nilgiris; Ceylon; Perak; Java; Borneo.

Palpi short, porrect, and roughly scaled; antennæ bipectinate to two-thirds length in both sexes, the branches longer in male than in female; hind tibiæ not dilated. Fore wing with vein 3 from angle of cell; 7, 8, 9 stalked from upper angle; 10 absent; 11 free. Hind wing with vein 3 from angle of cell.

3225. **Zamarada translucida,** *Moore, Lep. Ceyl.* iii, p. 432, pl. 197, fig. 2; *C. & S.* no. 3515.
Zamarada excisa, *Hmpsn. Ill. Het.* viii, p. 110.

Head ochreous; thorax and abdomen purplish grey, irrorated

with fuscous; wings yellow hyaline, with a few dark striæ; a small basal patch and broad marginal band purplish grey, irrorated with fuscous, deeply indented between veins 2 and 4 of each wing, and with a submarginal series of rufous and silvery lunules on it interrupted at the indention; a dark speck at end of cell of fore wing.

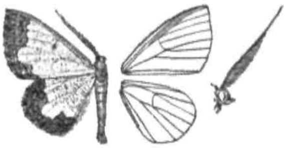

Fig. 111.
Zamarada translucida, ♂. ½.

Hab. Khásis; Nágas; Ganjam; Nilgiris; Ceylon; Perak; Borneo. *Exp.* 58 millim.

3226. **Zamarada cosmiaria**, *Swinh. A. M. N. H.* (6) xii, p. 155.

♂. Differs from *translucida* in being much greener hyaline; both wings with the marginal band narrower and redder, the sinus on fore wing not so deep, its inner edge on hind wing sinuous but without a sinus.

Hab. Khásis; Nágas. *Exp.* 28 millim.

Genus KRANANDA.

Krananda, *Moore, P. Z. S.* 1867, p. 648.
Zanclopera, *Warr. Nov. Zool.* p. 441 (1894).

Type, *K. semihyalina*, Moore.
Range. Himalayas; Khásis.

Palpi thickly scaled and not reaching beyond the frons; antennæ of male minutely fasciculated; hind tibiæ dilated. Fore wing with fovea; the costa highly arched towards apex, which is highly falcate; the inner margin with long hair at middle; outer angle lobed and with long cilia; vein 3 from angle of cell; 7, 8, 9 stalked from upper angle; 10 absent; 11 free. Hind wing with the outer margin produced to a long point at vein 7; vein 3 from just before angle of cell.

SECT. I. (*Krananda*). Both wings with the outer margin crenulate.

3227. **Krananda semihyalina**, *Moore, P. Z. S.* 1867, p. 648; *C. & S* no. 3661.
Krananda diversa, *Warr. Nov. Zool.* p. 440.

Brownish grey; collar fringed with brown; wings hyaline; the veins, costa, and outer third grey-brown irrorated with black. Fore wing with traces of antemedial and medial dark double lines; a pale lunule on discocellulars; a sinuous dark line bounding the hyaline area and excurved between veins 2 and 4. Hind wing with the inner area grey-brown; traces of an antemedial dark

band; the hyaline area angled beyond cell; both wings with a series of submarginal hyaline spots. Underside with diffused rufous and fuscous beyond the hyaline area.

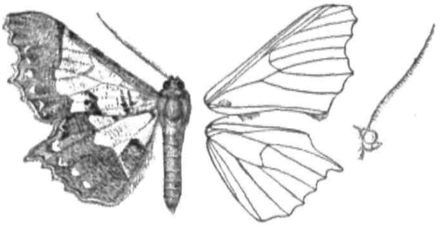

Fig. 112.—*Krananda semihyalina*, ♂. ¼.

Hab. Dalhousie; Sikhim; Khásis. *Exp.*, ♂ 48, ♀ 58 millim.

3228. **Krananda oliveomarginata,** *Swinh. A. M. N. H.* (6) xiv, p. 139.

♂. White; thorax suffused with pale olive-green. Wings with the basal two-thirds irrorated with pale olive; the area beyond the sinuous white postmedial line pale olive, with a waved white submarginal line at costa of fore wing and from vein 7 to anal angle of hind wing; fore wing with an oblique olive patch on middle of costa and a similar patch on inner margin beyond middle; some black marks above outer angle; both wings with minute black cell-specks.

Hab. Khásis. *Exp.* 40 millim.

SECT. II. (*Zanclopera*). Both wings with the outer margin non-crenulate.

3229. **Krananda falcata,** *Warr. Nov. Zool.* p. 441.

♂. Ochreous, striated with brown. Fore wing with dark specks on costa; an indistinct submarginal line with some dark specks inside it below middle; a large dark lunule above inner margin and spot beyond it. Hind wing with traces of postmedial band with a series of specks inside it; both wings with the cilia dark rufous. Underside with dark rufous postmedial band prominent on both wings.

Hab. Khásis. *Exp.* 30 millim.

Genus ZEHEBA.

Zehoba, *Moore, Lep. Ceyl.* iii, p. 468 (1887).

Type, *Z. lucidata*, Wlk.

Range. Sikhim; Khásis; Nilgiris; Ceylon; Java; Borneo; Cape York.

Palpi short, porrect, and roughly scaled; antennæ of male ciliated; hind tibiæ dilated, with a fold and tuft of long hair on inner side. Fore wing highly falcate at apex; the outer margin excised from the apex to vein 4, then oblique to outer angle; vein 3 from angle of cell; 7, 8, 9 stalked; 10 absent; 11 free. Hind wing with the cell short and broad; veins 7 and 8 being much arched near base; vein 3 from angle of cell; the outer margin produced to points at the veins in male, highly angled at vein 4 in female.

3230. **Zeheba lucidata**, *Wlk. Cat.* xxvi, p. 1651.
Evarzia marginata, *Wlk. Cat.* xxxv, p. 1561; *Moore, Lep. Ceyl.* iii, pl. 205, fig. 8; *C. & S.* no. 3654.
Zeheba aureata, *Moore, Lep. Atk.* p. 263; *C. & S.* no. 3653.

♂. Ochreous white; palpi and frons brownish. Wings semihyaline. Fore wing with traces of oblique antemedial and medial reddish lines; a speck at end of cell. Hind wing with speck at end of cell and indistinct medial line; both wings with a curved submarginal line with rufous suffusion beyond it; a rufous marginal line. Underside with brighter rufous on marginal area; the apex of fore wing and most of the margin of hind wing pale.

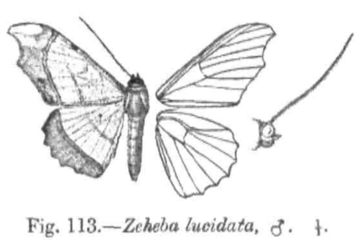

Fig. 113.—*Zeheba lucidata*, ♂. ½.

♀. Yellower, with the marginal area of both wings much broader, the line on its inner edge postmedial.

Hab. Sikhim; Khásis; Nilgiris; Ceylon; Java; Borneo; Cape York. *Exp.*, ♂ 42, ♀ 38 millim.

Genus **MACARIA**.

Macaria, *Curt. Brit. Ent.* vi, pl. 132 (1823).
Semiothisa, *Hübn. Verz.* p. 298 (? 1818), non descr.
Gonodela, *Boisd. Ind. Méth.* p. 186 (1840).
Evarzia, *Wlk. Cat.* xx, p. 273 (1860).
Azata, *Wlk. Cat.* xx, p. 272.
Gubaria, *Moore, Lep. Ceyl.* iii, p. 464 (1887).

Type, *M. liturata*, Linn., from Europe.

Range. Universally distributed.

Palpi hairy, obliquely porrect, and reaching beyond the short frontal tuft; antennæ of male ciliated, rarely serrate. Fore wing of male with a fovea; vein 3 from angle of cell; 7, 8, 9 stalked from upper angle; 10 absent; 11 free. Hind wing with the outer margin strongly angled at vein 4 and slightly at vein 6; vein 3 from angle of cell.

SECT. I. Fore wing with the outer margin evenly rounded; hind tibiæ of male not dilated.

3231. **Macaria arenaria,** *Swinh. P. Z. S.* 1884, p. 527, pl. 48, fig. 13; *C. & S.* no. 3617.

♀. Pale ochreous, irrorated with pale brown. Fore wing with indistinct oblique antemedial and medial lines, the former angled below the costa; a dark spot at end of cell; a double oblique submarginal line, with indistinct dark patch on it at middle. Hind wing with indistinct medial and double postmedial lines.
Hab. Karáchi; Mhow. *Exp.* 32 millim.

3232. **Macaria frugaliata,** *Guen. Phal.* ii, p. 78; *C. & S.* no. 3610.
Macaria peremptaria, *Wlk. Cat.* xxiii, p. 929; *C. & S.* no. 3626.
Macaria cacavena, *Wlk. Cat.* xxiii, p. 930; *Moore, Lep. Ceyl.* iii, pl. 204, figs. 11, 12; *C. & S.* no. 3619.

Differs from *arenaria* in being thickly irrorated with fuscous; the medial line of both wings much more diffused; the submarginal line with dark suffusion beyond it. Underside with submarginal dark band instead of the double lines.
Hab. Dharmsála; Karáchi; Bombay and Madras Presidencies; Ceylon. *Exp.* 28 millim.

SECT. II. (*Macaria*). Fore wing with the outer margin slightly angled at vein 4.

A. *Male with the hind tibiæ dilated.*

3233. **Macaria fasciata,** *Fabr. Syst. Ent.* p. 629; *Moore, Lep. Ceyl.* iii, pl. 203, figs. 6 *a*, *b* (larva); *C. & S.* no. 3632.
Phalæna eleonora, *Cram. Pap. Exot.* iii, p. 172, pl. 288, figs. E, F, G.
Macaria victorinata, *Guen. Phal.* ii, p. 90.

♂. Slaty grey; palpi, antennæ, and abdomen (except on dorsum) orange. Fore wing with indistinct curved and waved antemedial line; a broad white medial band not reaching costa, with a line

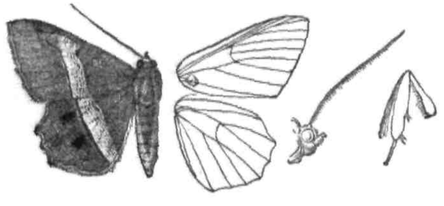

Fig. 114.—*Macaria fasciata*, ♂. 1/1.

beyond it bent outwards below the costa and nearly met by a fuscous orange-speckled blotch from the costa; cilia white, fuscous below apex. Hind wing with broad medial white band enclosing

a speck at end of cell, and with a dark line on its outer edge, beyond which are two orange blotches irrorated with black, the lower, and often the upper, with a black patch at centre; cilia white. Underside with the base of wings orange.

♀. More irrorated with fuscous; often suffused with rufous, and with the pale band grey; the cilia fuscous. Underside with the outer area suffused with orange and blotched with white.

A melanism from the Khásis is almost entirely suffused with black.

Larva green, with dorsal and sublateral yellow stripes; or brown with the stripes white. Food-plant, *Mimosa concinna*.

Hab. Throughout India, Ceylon, and Burma; Andamans. *Exp.* 42 millim.

3234. **Macaria inchoata,** *Wlk. Cat.* xxiii, p. 931; *C. & S.* no. 3642.

Differs from *fasciata* in being pale reddish brown; the band hardly differentiated except by the line on its outer edge; the patches beyond it on hind wing slight; the cilia concolorous. Underside with the basal orange area irrorated with white.

This approaches very near the rufous form of *fasciata*, and may be only a variety.

Hab. Bombay; Nilgiris; Moulmein. *Exp.* 42 millim.

3235. **Macaria subalbataria,** *Swinh. P. Z. S.* 1889, p. 428.

Differs from *inchoata* in being greenish fuscous in tone; hind, wing with no patches beyond the band.

Hab. N. Canara; Nilgiris. *Exp.* 42 millim.

3236. **Macaria nora,** *Wlk. Cat.* xxiii, p. 934; *Moore, Lep. Ceyl.* iii pl. 203, figs. 5, 5 *a*; *C. & S.* no. 3634.
Macaria neonora, *Wlk. Cat.* xxiii, p. 934.

Differs from *fasciata* in being suffused with black, especially beyond the medial band of both wings. Fore wing with a black speck at end of cell; hind wing with the black patches beyond the band more numerous; a white patch on the outer area below vein 4.

Hab. Throughout India and Ceylon. *Exp.* 42 millim.

3237. **Macaria xanthonora,** *Wlk. Cat.* xxiii, p. 935; *Butl. Ill. Het.* vi, pl. 118, fig. 12; *C. & S.* no. 3635.

Differs from *nora* in having the outer part of the band of fore wing suffused with orange; the band of hind wing orange except its inner edge; the black patches as in *fasciata* and no white patch on outer area. Underside with the whole hind wing orange as far as the outer edge of the band.

Hab. Sikhim; Bhután; Khásis; Nilgiris; Burma. *Exp.* 42 millim.

3238. **Macaria elvirata**, *Guen. Phal.* ii, p. 90; *C. & S.* no. 3631.
Azelina metagonaria, *Wlk. Cat.* xxvi, p. 1518; *Butl. Ill. Het.* vi, pl. 118, fig. 11; *C. & S.* no. 3633.
Gonodela khasiana, *Moore, Lep. Atk.* p. 262; *C. & S.* no. 3643.
Gonodela apataria, *Swinh. A. M. N. H.* (6) xii, p. 222.

Differs from *fasciata* in the band not being differentiated and wholly suffused with purplish grey, or the basal area paler and irrorated with fuscous and orange as far as the postmedial line. Underside wholly orange; the area beyond the postmedial line more or less blotched with purplish fuscous.

Hab. Sikhim; Khásis; Bombay; Nilgiris. *Exp.* 40 millim.

3239. **Macaria odataria**, *Swinh. A. M. N. H.* (6) xii, p. 154.

♂. Differs from *emersaria* (p. 207) in the fore wing having the postmedial line almost straight, not excurved below costa, and terminating near outer angle; dark marks beyond it throughout its whole length. Hind wing with the margin strongly crenulate; a straight double postmedial line. Underside with the rufous and dark postmedial band very prominent.

Hab. Sikhim; Khásis; Tenasserim. *Exp.* 36 millim.

3240. **Macaria sufflata**, *Guen. Phal.* ii, p. 88, pl. 17, fig. 8; *C. & S.* no. 3648.
Macaria hebesata, *Wlk. Cat.* xxiii, p. 931; *C. & S.* no. 3639.
Macaria vasudeva, *Wlk. Cat.* xxiii, p. 933; *C. & S.* no. 3649.
Gonodela horridaria, *Moore, Lep. Atk.* p. 262; *C. & S.* no. 3641.
Gonodela placida, *Moore, Lep. Atk.* p. 262; *C. & S.* no. 3646.
Semiothisa diplotata, *Feld. Reis. Nov.* pl. 128, fig. 16; *C. & S.* no. 3636.
Gonodela fuscomarginata, *Warr. P. Z. S.* 1888, p. 323; *C. & S.* no. 3638 A.

♂. Grey, irrorated with fuscous. Fore wing with some ochreous on costal area and postmedial line; indistinct slightly sinuous antemedial and medial lines; a double postmedial line excurved below costa, with dark patches beyond it at costa, at middle, and often above inner margin. Hind wing with antemedial line and spot at end of cell; the double postmedial black line prominent, with a conspicuous spot or patches beyond it at middle and often towards apex; both wings with marginal sinuous line. Underside suffused with ochreous and with rufous patches on outer area.

♀. Paler and yellowish brown, without black patches on upperside.

In the form *fuscomarginata* from the N.W. Himalayas and Punjab the outer area is prominently purplish grey, with an ochreous inner edge to the postmedial line; the basal area pale.

Hab. China; throughout India, Ceylon, and Burma. *Exp.* 30–34 millim.

3241. **Macaria myandaria,** *Wlk. Cat.* xxvi, p. 1649; *C. & S.* no. 3644.
Gonodela triangulata, *Hmpsn. Ill. Het.* viii, p. 112, pl. 151, figs. 4, 10.

Differs from *sufflata* in the antennæ of male being serrate; the underside not suffused with ochreous.

Hab. "N. India"; Canara; Nilgiris. *Exp.* 32 millim.

3242. **Macaria atmala,** *Swinh. Trans. Ent. Soc.* 1894, p. 210.

♂. Dark purplish fuscous, irrorated with black; the palpi, antennæ, and costa of fore wing variegated with ochreous brown. Fore wing with antemedial, medial, and postmedial slightly-waved dark lines with some brown scales on them, the first angled below costa, the two latter excurved. Hind wing with indistinct ante- and postmedial slightly waved dark lines, with a few brown scales on them.

Hab. Khásis. *Exp.* 30 millim.

3243. **Macaria azataria,** *Swinh. A. M. N. H.* (6) xii, p. 154.

♂. Yellowish rufous. Fore wing with indistinct antemedial and medial lines; white quadrate spot between origin of veins 2 and 3; indistinct postmedial double line highly excurved below costa, the area beyond it suffused with purplish; a white subapical speck. Hind wing with indistinct antemedial line; double postmedial line: traces of a dark line beyond it with a spot at its middle.

Hab. Khásis. *Exp.* 28 millim.

B. *Hind tibiæ of male not dilated.*

3244. **Macaria pervolgata,** *Wlk. Cat.* xxiii, p. 930; *C. & S.* no. 3645.
Fidonia duplicata, *Wlk. Cat.* xxiv, p. 1035; *C. & S.* no. 3677.

Whitish, slightly suffused with brown and striated with fuscous. Fore wing with obliquely-waved antemedial, medial, and postmedial dark lines angled below the costa; a black spot at end of cell; some fuscous suffusion beyond the postmedial line; a dark patch on costa and spot below vein 5; a series of marginal black specks. Hind wing with black spot at end of cell; ante- and postmedial waved lines, the latter with fuscous suffusion beyond it and a black spot or spots at vein 2; a marginal crenulate black line. Underside with the marginal area largely suffused with rufous and with white patches on it.

Hab. Bengal; Poona. *Exp.*, ♂ 26, ♀ 28 millim.

3245. **Macaria fidoniata,** *Guen. Phal.* ii, p. 78; *C. & S.* no. 3638.
Macaria streniataria, *Wlk. Cat.* xxvi, p. 1646; *C. & S.* no. 3647.

Differs from *pervolgata* in the antemedial and medial lines of fore wing being broadened into nearly straight bands; the post-

medial more highly angled below costa and broken by a pale streak from apex; the whole marginal area suffused with fuscous. Hind wing with straight antemedial and broad postmedial and marginal bands. Underside with the dark markings tinged with ochreous.

Hab. Karáchi; Simla; Campbellpur. *Exp.* 26 millim.

SECT. III. (*Evarzia*). Outer margin of fore wing prominently angled at vein 4.

A. *Hind tibiæ of male dilated.*

3246. **Macaria ozararia,** *Wlk. Cat.* xx, p. 274.

Macaria perspicuaria, *Moore, P. Z. S.* 1867, p. 647; *C. & S.* no. 3651.

Evarzia indica, *Butl. A. M. N. H.* (5) vi, p. 222; *id. Ill. Het.* vi, pl. 118, fig. 13; *C. & S.* no. 3650.

Brownish ochreous, thickly irrorated with dark brown. Fore wing with traces of antemedial and medial curved sinuous yellowish lines; an oblique line from costa near apex meeting a double dark rufous oblique submarginal line from below apex, the area beyond it suffused with purplish. Hind wing with indistinct yellowish antemedial line; the oblique double line postmedial; both wings with a dark marginal line; the cilia pale. Underside with broad bright rufous marginal band on fore wing, leaving the apex pale; hind wing with the band submarginal and with dentate outer edge.

The Indian form *perspicuaria* has a dark spot and traces of a sinuous submarginal line beyond the double line of hind wing.

Hab. Sikhim; Khásis; Travancore; Ceylon; Borneo. *Exp.* 40 millim.

3247. **Macaria effusata,** *Guen. Phal.* ii, p. 87; *C. & S.* no. 3637.

Evarzia trilinearia, *Moore, Lep. Atk.* p. 263; *C. & S.* no. 3652.

Brownish ochreous, irrorated with dark brown. Fore wing with antemedial, medial, and postmedial brown lines angled below the costa, the first two sometimes waved; a speck at end of cell. Hind wing with antemedial line; speck at end of cell, and postmedial double line generally with a dark spot beyond it at middle; outer area of both wings slightly suffused with purple. Underside with dark suffusion beyond the postmedial line of both wings.

Hab. Simla; Dharmsála; Sikhim; Khásis. *Exp.* 38 millim.

B. *Hind tibiæ of male not dilated.*

3248. **Macaria acutaria**, *Wlk. Char. Undescr. Het.* p. 100; *C. & S.* no. 3605.

Whitish, thickly irrorated and suffused with fuscous. Fore wing with antemedial dark spot on costa and double oblique line below median nervure; a medial spot on costa and triangular patch before apex; a double oblique postmedial dark line from vein 5 to inner margin. Hind wing with antemedial line and speck at end of cell; a double oblique postmedial line angled at apex; an indistinct double submarginal line; both wings with marginal series of dark specks. Underside suffused with yellow, and with white specks on the submarginal line of both wings.

The Nága race is darker and more olive above, more orange below.

Hab. Sikhim; Khásis; Nágas. *Exp.* 38 millim.

3249. **Macaria temeraria**, *Swinh. Trans. Ent. Soc.* 1891, p. 492.

White, irrorated with grey and pale brown; abdomen with dark dorsal specks near base. Fore wing with slightly sinuous antemedial, medial, and postmedial lines, the first and third angled below costa, the second at lower angle of cell; the postmedial line with a dark patch on it at middle and fuscous suffusion beyond it; a white submarginal line ending at anal angle; the veins of outer area pale. Hind wing with indistinct antemedial line; curved crenulate medial line; a straight olive and white line from apex to anal angle. Underside with the lines prominent; the postmedial line of fore wing crenulate.

Hab. Simla; Khásis; Nágas. *Exp.*, ♂ 34, ♀ 38 millim.

3250. **Macaria oliva**, *Swinh. Trans. Ent. Soc.* 1894, p. 207, pl. 2, fig. 16.

♂. Differs from *temeraria* in having an olive hue. Fore wing with the postmedial line almost regularly curved and with a dark blotch at middle; some subapical white specks and no submarginal line. Hind wing with ill-defined fuscous subbasal band; nearly straight medial line and straight submarginal line. Underside with more dark suffusion, especially on outer area.

Hab. Khásis. *Exp.* 32 millim.

3251. **Macaria emersaria**, *Wlk. Cat.* xxiii, p. 925; *C. & S.* no. 3609.

Grey, irrorated with pale and dark brown; abdomen with dark spots on dorsum. Fore wing with subbasal dark speck; indistinct oblique antemedial, medial, and postmedial lines angled below costa and arising from rufous patches or short bands on costa; a dark speck at end of cell; the postmedial line with a costal rufous patch beyond it and disintegrated dark patch at vein 4; outer area slightly darker; the margin rufous below apex. Hind wing with indistinct antemedial line; dark spot at end of cell; dark waved

postmedial line, with rufous and grey suffusion beyond it; a marginal dark line; both wings with the veins of outer area pale. Underside with broad rufous postmedial band with crenulate outer edge.

Hab. Throughout India, Ceylon, and Burma. *Exp.*, ♂ 32, ♀ 40 millim.

3252. **Macaria octolinearia,** *Swinh. A. M. N. H.* (6) xiv, p. 138.

♂. Differs from *emersaria* in the wings being narrower and tinged with olive-green. Fore wing with the antemedial, medial, and postmedial lines hardly angled below costa; the medial with an oblique line across it from costa to lower angle of cell; no rufous costal patch beyond the postmedial line. Hind wing with the postmedial waved line oblique and ending near anal angle, and with a black mark beyond it below vein 4.

Hab. Khásis. *Exp.* 28 millim.

SECT. IV. (*Semiothisa*). Fore wing with the outer margin excised below apex. Hind tibiæ not dilated.

3253. **Macaria perfusaria,** *Wlk. Cat.* xxxv, pl. 1659.
Azata ferruginata, *Moore, Lep. Ceyl.* iii, p. 470, pl. 205, fig. 2; *C. & S.* no. 3655.
Azata subfasciata, *Hmpsn. Ill. Het.* viii, p. 112, pl. 151, fig. 20.

Bright rufous, more or less suffused with purplish grey and irrorated with fuscous. Fore wing with indistinct sinuous antemedial line angled below the costa; an obsolescent medial line represented by a patch on costa; a postmedial slightly curved line, often with a spot beyond it at middle. Hind wing with indistinct antemedial line; speck at end of cell and sinuous or crenulate postmedial line: both wings with rufous marginal line and the cilia fuscous. Underside with the ground-colour orange-fulvous.

The form *subfasciata* is purplish grey; fore wing with dark costal patches on the lines; the dark spot beyond the postmedial line, which is obsolescent, prominent. Underside with prominent medial line to each wing and rufous suffusion beyond the postmedial line.

Hab. Dharmsála; Sikhim; Khásis; Nágas; Nilgiris; Ceylon: Rangoon; Malacca; Borneo. *Exp.* 30 millim.

3254. **Macaria quadraria,** *Moore, Lep. Ceyl.* iii, p. 469, pl. 205, fig. 1; *C. & S.* no. 3656.

Differs from *perfusaria* in being purplish grey. Fore wing with the postmedial line very prominent and terminating near outer angle. Hind wing with the medial line prominent; a slightly curved prominent submarginal line.

Hab. Nilgiris; Ceylon. *Exp.* 26 millim.

Genus TEPHRINA.

Tephrina, *Dup. Cat. Lép. Eur.* p. 246 (1844).
Diastictis, *Hübn. Verz.* p. 288 (? 1818), non descr.

Type, *T. murinaria*, Schiff., from Europe.

Range. W. Indies; Palæarctic, Ethiopian, Oriental, and Australian regions.

Palpi hairy and reaching beyond the frons; hind tibiæ not dilated. Wings with the outer margins evenly curved. Fore wing of male usually with fovea; vein 3 from angle of cell; 7, 8, 9 stalked from upper angle; 10 absent; 11 usually free. Hind wing with vein 3 from angle of cell.

In the typical section the male has the branches of the antennæ very short.

SECT. II. Male with the branches of antennæ long, the extremity of shaft simple.

3255. **Tephrina disputaria**, *Guen. Phal.* ii, p. 489.

Cleora pulinda, *Wlk. Cat.* xxi, p. 333; *Moore, Lep Ceyl.* iii, pl. 204, figs. 7, 8; *C. & S.* no. 3627.
Macaria strenuataria, *Wlk. Cat.* xxvi, p. 1647.
Macaria integrata, *Wlk. Cat.* xxvi, p. 1648; *C. & S.* no. 3612.
Macaria strenuata, *Wlk. Cat.* xxvi, p. 1647; *C. & S.* no. 3629.
Aspilates indolata, *Wlk. Cat.* xxvi, p. 1681; *C. & S.* no. 3621.
Tephrina lithina, *Butl. P. Z. S.* 1883, p. 171.
Tephrina zebrina, *Butl. P. Z. S.* 1883, p. 171; *C. & S.* no. 3630.
Tephrina granitalis, *Butl. P. Z. S.* 1883, p. 171.
Tephrina sublimbata, *Butl. P. Z. S.* 1884, p. 502.
Macaria boaria, *Swinh. P. Z. S.* 1885, p. 861, pl. 56, fig. 12; *C. & S.* no. 3606.
Macaria infrictaria, *Swinh. P. Z. S.* 1885, p. 862; *C. & S.* no. 3623.
Tephrina ossea, *Swinh. Trans. Ent. Soc.* 1885, p. 353, pl. 9, fig. 9; *C. & S.* no. 3625.

♂. Whitish, thickly irrorated and suffused with fuscous; head orange. Fore wing with nearly erect antemedial dark line; a medial band incurved below cell and often joined to the antemedial line by blotches on inner area; a postmedial line incurved below vein 4 and with a dark spot beyond it at middle; the marginal area suffused with purplish grey. Hind wing with sinuous medial line; straight postmedial line, the area beyond it suffused with purplish fuscous. Underside slightly suffused with fulvous; the bands broader, especially the postmedial.

Fig. 115.—*Tephrina disputaria*, ♂. ½.

Typical *disputaria* from Egypt is a brown form, the bands of the fore wing very broad, black, and prominent on inner area; Karáchi specimens are almost as dark, but the ground-colour of the Indian form is usually paler and more ochreous.

♀. The typical female is similar to the male: *integrata* is much paler, with diffused and ill-defined dark spots coming out at end of cell of both wings: *lithina* is almost uniformly pale on upperside, the underside pale to the postmedial line; whilst *ossea* has the underside also uniformly pale.

Hab. Egypt; Aden; Persia; and throughout the plains of India and Burma. *Exp.*, ♂ 28, ♀ 30 millim.

3256. **Tephrina catalaunaria,** *Guen. Phal.* ii, p. 108.
Macaria falsaria, *Wlk. Cat.* xxvi, p. 1649; *Moore, Lep. Ceyl.* iii, pl. 204, figs. 1, 2; *C. & S.* no. 3620.
Aspilates proxantharia, *Wlk. Cat.* xxvi, p. 1679.
Macaria bolina, *Swinh. P. Z. S.* 1885, p. 861; *C. & S.* no. 3618.

Differs from *disputaria* in the thorax, abdomen, and wings being pale, uniformly striated with grey-brown; dark specks at end of cell; the antemedial line of fore wing and the medial and postmedial lines of both wings very indistinct and evenly curved; the medial line of fore wing running outside the speck at end of cell; a marginal series of dark specks. Underside with slight rufous submarginal band.

Hab. Spain; S. Africa; Bombay Presidency; Nilgiris; Ceylon. *Exp.* 30 millim.

3257. **Tephrina perviaria,** *Led. Verh. zool.-bot. Ges. Wien*, v, 1855, p. 213, pl. 3, fig. 7.
Fidonia albofascia, *Swinh. P. Z. S.* 1884, p. 527, pl. 48, fig. 14; *C. & S.* no. 3676.

♂. Blackish fuscous, irrorated with white; fore wing with a broad oblique medial white band; hind wing with the band slightly curved; a white submarginal spot on middle of outer area.

Hab. Syria; Karáchi and Hyderabad, Sind. *Exp.* 24 millim.

3258. **Tephrina fumosa,** *Hmpsn. Ill. Het.* viii, p. 112, pl. 151, fig. 19.

Differs from *catalaunaria* in being uniform dark purplish fuscous with dark and white irroration. Fore wing with the lines brownish; the medial line embracing the speck at end of cell. Legs striped white and black.

Hab. Nilgiris. *Exp.* 24–28 millim.

SECT. III. Male with the antennæ ciliated.

3259. **Tephrina parallelaria,** *Wlk. Cat.* xxvi, p. 1680; *C. & S.* no. 3620 (part.).
Aspilates exfusaria, *Wlk. Cat.* xxvi, p. 1683.
Tephrina dessicata, *Wlk. Cat.* xxxv, p. 1660.

Differs from *catalaunaria* in the antemedial line of fore wing and medial line of both wings being finer; the postmedial line double and straight, the area beyond it slightly suffused with brown. underside suffused with fulvous yellow.

Hab. S. Africa; Madagascar; Khásis: Nilgiris; Travancore; Ceylon; Java; Australia. *Exp.*, ♂ 30, ♀ 32 millim.

SECT. IV. Antennæ of male minutely serrate; fore wing without fovea; vein 11 anastomosing with 12; hind wing with fovea at base of vein 8.

3260. **Tephrina ? purpurascens**, *Moore, Lep. Atk.* p. 261, pl. 8, fig. 19; *C. & S.* no. 3597.

♂. Dark purple-grey; collar ochreous. Fore wing with an ochreous costal fascia with dark striæ on it and expanding into two postmedial and a smaller apical patch; curved antemedial and medial lines and two waved postmedial brown lines. Hind wing with antemedial and medial sinuous lines and a waved postmedial line; both wings with fine marginal line.

Hab. Sikhim. *Exp.* 30 millim.

Genus **OXYMACARIA**.

Oxymacaria, *Warr. Nov. Zool.* p. 438 (1894).

Type, *O. palliata*, Hmpsn.

Range. Nilgiris.

Palpi short and hairy; antennæ of male with fascicles of long cilia; hind tibiæ of male not dilated. Fore wing with a fovea; the apex produced and falcate; vein 3 from before angle of cell; 7, 8, 9 stalked, from before upper angle; 10 and 11 stalked and anastomosing with 12. Hind wing angled at vein 4; 3 from before angle of cell.

3261. **Oxymacaria palliata**, *Hmpsn. Ill. Het.* viii, p. 113, pl. 151, figs. 5, 11.

♂. Whitish, irrorated with olive-brown. Both wings with the outer area suffused with olive-green; an indistinct medial fuscous line and submarginal line which is slightly sinuous on fore wing, slightly angled at vein 6 on hind wing; a marginal series of dark specks. Underside of fore wing with subapical white speck.

♀. Much paler; both wings with postmedial series of dark specks on the veins; in some specimens there is a dark patch on the middle of the series on fore wing; the submarginal line obsolete.

Hab. Nilgiris. *Exp.*, ♂ 38, ♀ 44 millim.

Genus **ORSONOBA**.

Orsonoba, *Wlk. Cat.* xx, p. 218 (1860).
Gonodontis, *Hübn. Verz.* p. 287 (? 1818), non descr.

Type, *O. clelia*, Cram.

Range. Throughout India and Ceylon; Borneo; Australia.

Palpi thickly scaled and reaching beyond the frons; antennæ bipectinated to two-thirds length in male; hind tibiæ not dilated. Fore wing with the costa arched towards apex, which is somewhat falcate; the outer margin oblique, with two dentitions below apex; inner margin lobed at outer angle; vein 3 from angle of cell;

5 from just above middle of discocellulars; 7, 8, 9 stalked, from upper angle; 10 and 11 free. Hind wing with the costa deeply excised from middle to apex, which is also excised; the outer margin crenulate and produced at veins 6 and 4 to points which are longer in the female than in the male; vein 3 from angle of cell.

3262. **Orsonoba clelia**, *Cram. Pap. Exot.* iii, p. 172, pl. 288, figs. B, C; *C. & S.* no. 3190.
Gonodontis cleliaria, *Hübn. Verz.* p. 287.
Orsonoba rajaca, *Wlk. Cat.* xx, p. 219; *Moore, Lep. Ceyl.* iii, pl. 187, figs. 1, 1 *a*, *b* (larva); *C. & S.* no. 3192.
Orsonoba pallida, *Butl. A. M. N. H.* (5) vi, p. 125; *id. Ill. Het.* vi, pl. 114, fig. 5; *C. & S.* no. 3191.
Erosia hyperbolica, *Swinh. P. Z. S.* 1884, p. 528, pl. 48, fig. 15; *C. & S.* no. 3058.

♂. Pale rufous, irrorated with fuscous; the collar fuscous. Fore wing with an antemedial line highly angled below costa; a dark speck at end of cell; a postmedial line angled below costa, and with more or less developed hyaline specks on its inner edge beyond and below cell, with an indistinct band from them to inner margin; a rufous spot on costa before apex and traces of a submarginal band. Hind wing with a dark spot, often with hyaline centre at end of cell; indistinct medial and slightly-angled postmedial lines; the outer margin darker.

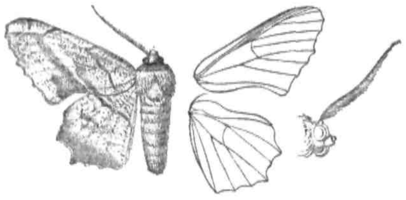

Fig. 116.—*Orsonoba clelia*, ♂. ½.

The form *pallida* is ochreous white, with the markings pale olive-brown instead of rufous.

♀. Purplish fuscous, more or less suffused with grey and often blotched with rufous; the lines dark; fore wing with hyaline specks or more or less complete medial band from cell to inner margin, and postmedial band from vein 6 to inner margin; hind wing sometimes with similar band.

Hyperbolica is a dwarf (30 millim.) brownish ochreous female from Karáchi.

Larva olive fuscous, with a few short dorsal hairs and points; the 5th and 11th somites with dorsal prominences. Food-plants, *Convolvulaceæ*.

Hab. Sikhim; Khásis; Karáchi; Bombay; Nilgiris; Ceylon; Borneo; Australia. *Exp.*, ♂ 40–46, ♀ 30–60 millim.

Genus **HYPOSIDRA**.

Hyposidra, *Guen. Phal.* ii, p. 150 (1857).
Lagyra, *Wlk. Cat.* xx, p. 58 (1860).
Chizala, *Wlk. Cat.* xx, p. 263.
Kalabana, *Moore, P. Z. S.* 1879, p. 415.

Leptesthes, *Warr. Nov. Zool.* p. 445 (1894).
Hyalinetta, *Swinh. Trans. Ent. Soc.* 1894, p. 202.

Type, *H. janiaria*, Guen., from Java and Australia.

Range. China; throughout India, Ceylon, and Burma; Andamans; Sumatra; Java; Borneo; Philippines; Celebes; Australia.

Palpi hairy and reaching beyond the frons; antennæ of male usually bipectinated with long branches to three-fourths length; hind tibiæ rarely dilated, and fringed with hair. Fore wing of male with fovea; the costa arched towards apex, which is much produced; vein 3 from just before angle of cell; the discocellulars angled below vein 5; 7, 8, 9 stalked, from before upper angle and curved; 10, 11 usually stalked: female with the costa evenly arched; the outer margin excised below apex; vein 3 from angle of cell; 5 obsolescent; 10 and 11 coincident. Hind wing with vein 3 from angle of cell.

SECT. I. Female with the outer margin of hind wing hardly crenulate; male with outer margin of neither wing excised; antennæ pectinated.

A. *Hind wing with the outer margin angled at vein 4.*

3263. **Hyposidra talaca,** *Wlk. Cat.* xx, p. 59; *Moore, Lep. Ceyl.* iii, pl. 185, figs. 1, 1 *a*, *b* (larva); *C. & S.* no. 3139.
Chizala deceptatura, *Wlk. Cat.* xx, p. 264.
Lagyra bombycaria, *Wlk. Cat.* xxxv, p. 1539.
Lagyra rigusaria, *Wlk. Cat.* xxvi, p. 1485; *C. & S.* no. 3137.
Hyposidra khasiana, *Warr. Nov. Zool.* p. 681.

Dark olive fuscous, more or less irrorated and suffused with grey; both wings with faint traces of medial and crenulate postmedial lines; the cilia dark. Fore wing with traces of antemedial line and more or less distinct subapical patch in male. Underside with crenulate postmedial line to both wings.

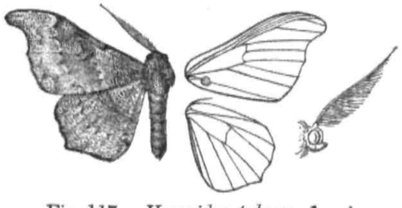

Fig. 117.—*Hyposidra talaca*, ♂. ½.

The form *rigusaria* is paler and redder.

Larva pinkish olive-green, irrorated with black, and with dark patches on 4th and 6th somites. Food-plants, *Jambrona*, *Combretum*, and *Ficus parasiticus*.

Hab. Throughout India, Ceylon, and Burma; Andamans; Java; Borneo; Celebes; Philippines. *Exp.*, ♂ 44, ♀ 54–60 millim.

3264. **Hyposidra violescens,** n. sp.

♂. Fuscous suffused with purple, and with a red tinge in parts Fore wing with traces of waved antemedial and medial lines; a postmedial purplish-white line angled below costa, then slightly

curved and oblique to vein 2; some dark submarginal marks. Hind wing with traces of medial fuscous band and discocellular striga; a waved pale purple postmedial line, with some fuscous on its inner edge. Underside with prominent black discocellular lunules; fore wing with black subapical streak.

Hab. Sikhim (*Dudgeon*). *Exp.* 44 millim. Type in B.M.

3265. **Hyposidra picaria,** *Wlk. Cat.* xxxv, p. 1541.

Fore wing with the costa less arched and the apex less produced and falcate. Black; fore wing with a large white patch beyond the cell between veins 6 and 4; a quadrate patch on inner margin; hind wing with a broad white postmedial band with irregular outer edge from vein 6 to inner margin.

Hab. Mergui; Java. *Exp.*, ♂ 45, ♀ 64 millim.

*3266. **Hyposidra albifera,** *Moore, P. Z. S.* 1879, p. 415; *C. & S.* no. 3133.

♀. Differs from *picaria* in the fore wing having an oblique irregular white bar between veins 6 and 4 and a white apical spot; hind wing with the band narrower, curved, and with crenulate outer edge.

Hab. Kulu. *Exp.* 54 millim.

B. *Hind wing with the outer margin rounded.*

3267. **Hyposidra aquilaria,** *Wlk. Cat.* xxvi, p. 1485.
Hyposidra albipunctata, *Warr. P. Z. S.* 1893, p. 398.
Hyposidra kala, *Swinh. A. M. N. H.* (6) xii, p. 153.

♂. Differs from *talaca* in being deep leaden fuscous. Fore wing with traces of antemedial, medial, postmedial, and submarginal olive bands, the last with ill-defined brown blotch at middle. Hind wing with traces of antemedial, postmedial, and submarginal bands. Underside with two lines to each wing; a white costal speck near apex of each wing, and one on inner margin of hind wing above anal angle.

♀ with much more falcate fore wing.

Hab. N. China; Sikhim; Shillong. *Exp.*, ♂ 52, ♀ 124 millim.

Sect. II. Female with the outer margin of hind wing produced to points at the veins. Male with the outer margin of neither wing excised; antennæ pectinated.

3268. **Hyposidra successaria,** *Wlk. Cat.* xx, p. 60; *C. & S.* no. 3138.
Chizala decipiens, *Wlk. Cat.* xx, p. 263.
Lagyra humiferata, *Wlk. Cat.* xxvi, p. 1484; *C. & S.* no. 3135.

Differs from *talaca* in being pale brick-red; the postmedial line on underside slightly sinuous, not crenulate.

Hab. Throughout India, Ceylon, and Burma; Java. *Exp.*, ♂ 42, ♀ 60 millim.

3269. **Hyposidra infixaria**, *Wlk. Cat.* xx, p. 60.
Chærodes umbrosa, *Swinh. Trans. Ent. Soc.* 1890, p. 203, pl. 7, fig. 4.

♂. Ochreous, suffused in parts with rufous and irrorated with fuscous; a fuscous fascia on basal costal area; an oblique rufous streak from apex, often joining the costal fascia; a dark speck at end of cell; a postmedial rufous line, angled below costa, and with an indistinct sinuous line beyond it; a submarginal sinuous line with some white lunules on it towards costa. Hind wing with speck at end of cell; indistinct medial and crenulate postmedial lines and traces of subapical white specks. Underside with prominent crenulate postmedial line to both wings. Some specimens have a dark postmedial patch and submarginal specks developed on inner area of each wing.

♀. Ochreous or pale reddish, with the markings obsolescent, especially on upperside; fore wing without the costal fascia and apical streak.

Hab. Khásis; Moulmein; Rangoon; Sumatra; Java; Borneo. *Exp.*, ♂ 38, ♀ 44–60 millim.

Sect. III. Male with short stiff branches to the antennæ; fore wing with vein 10 absent, the outer margin deeply excised below apex; hind wing with the outer margin crenulate; hind tibiæ dilated, with a fold and tuft of hair.

3270. **Hyposidra murina**, *Swinh. Trans. Ent. Soc.* 1891, p. 487, pl. 19, fig. 13.

♂. Grey, irrorated with black. Fore wing with a short basal streak below costa; a waved antemedial line much excurved in cell; a medial line angled below costa, and with a dark spot on it at end of cell; traces of a waved oblique postmedial line; a rufous tinge at the excision below apex. Hind wing with a vinous tinge; a blackish antemedial mark on inner margin; a waved obsolescent medial line. Underside with rufous apical patch; hind wing with antemedial and medial lines prominent at inner margin.

Hab. Khásis. *Exp.* 42 millim.

Sect. IV. (*Leptesthes*). Male with the antennæ ciliated; outer margin of both wings deeply excised between veins 4 and 6; fore wing with veins 10 and 11 from cell.

3271. **Hyposidra megaspila**, *Moore, P. Z. S.* 1867, p. 616; *Waterh. Aid*, ii, pl. 151, fig. 1; *C. & S.* no. 3136.

♂. Leaden grey, irrorated with fuscous; both wings with incomplete antemedial ferruginous line; large ferruginous patch at end of cell with hyaline bracket-shaped mark on it, the patch on fore wing extending to costa; an indistinct postmedial series of specks; traces of a submarginal line; the cilia rufous.

Hab. Khásis. *Exp.* 30 millim.

Genus DILINIA.

Deilinia, *Hübn. Verz.* p. 310 (? 1818).
Leptomeris, *Hübn. Verz.* p. 310.
Petelia, *Herr.-Schäffer, Samml. aussereur. Schmett.* p. 84 (1854).
Bargosa, *Wlk. Cat.* xxi, p. 479 (1860).
Alana, *Wlk. Cat.* xxxv, p. 1567 (1866).
Trochistis, *Meyr. Trans. Ent. Soc.* 1892, p. 110.

Type, *D. pusaria*, Linn., from Europe.

Range. Palæarctic, Oriental, and Australian regions.

Palpi upturned and reaching vertex of head, the 2nd joint fringed with hair; antennæ of male bipectinate to two-thirds length; fore tibia with a long process and tuft of hair; hind tibiæ not dilated. Fore wing with vein 3 from near angle of cell; 7, 8, 9, 10 stalked, from before upper angle; 11 free. Hind wing with vein 3 from angle of cell.

SECT. I. (*Petelia*). Hind wing of male without fovea, and vein 8 approximated to cell to the middle.

3272. **Dilinia medardaria**, *Herr.-Schäffer, Samml. aussereur. Schmett.* fig. 534; *C. & S.* no. 3422.
Bargosa chacoraca, *Wlk. Cat.* xxi, p. 481.
Bargosa chandubija, *Wlk. Cat.* xxi, p. 480.
Bargosa distracta, *Wlk. Cat.* xxi. p. 481.
Ephyra strigulataria, *Wlk. Cat.* xxvi, p. 1575; *C. & S.* no. 3556.

♂. Grey-brown, irrorated with fuscous; antennæ fuscous. Fore wing with nearly straight fuscous antemedial line; both wings with straight medial line and often with a black spot at end of cell; traces of a waved submarginal rufous band; a series of black marginal specks. Underside whitish, with very prominent black cell-spots to each wing; the outer area suffused with fuscous.

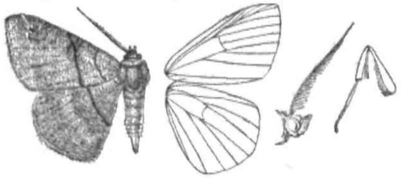
Fig. 118.—*Dilinia medardaria*, ♂. ½.

♀. With the vertex of head white; the fuscous lines of both wings obsolescent; fore wing sometimes with a black apical patch.

Hab. Throughout India, Ceylon, and Burma. *Exp.* 40 millim.

3273. **Dilinia immaculata**, *Hmpsn. Ill. Het.* ix, p. 140, pl. 168, figs. 6, 12.

♂. Differs from *medardaria* in being rufous brown; abdomen with a white anal tuft; underside pale rufous brown; the hind wing without cell-spot.

♀ with a series of diffused submarginal black spots to each wing.

Hab. Sikhim; Nágas; Ceylon. *Exp.* 44 millim.

3274. **Dilinia fasciata**, *Moore, P. Z. S.* 1867, p. 634, pl. 32, fig. 8; *C. & S.* no. 3421.

Bargosa rivulosa, *Butl. Trans. Ent. Soc.* 1881, p. 410.

Differs from *medardaria* in the antemedial line of fore wing and medial line of both wings being represented by diffused rufous-brown bands; two ill-defined waved rufous postmedial bands. Underside pale rufous brown, with prominent cell-spots and dark marginal area.

The Japanese form *rivulosa* has the underside nearly uniform.

Hab. Japan; Sikhim; Khásis. *Exp.* 45 millim.

3275. **Dilinia capitata**, *Wlk. Cat.* xxiii, p. 1019; *C. & S.* no. 3423 (part.).

Alana rubiginata, *Wlk. Cat.* xxxv, p. 1568.

Tacparia morosa, *Butl. Trans. Ent. Soc.* 1881, p. 403.

Dark rufous; vertex of head and end of abdomen grey; wings striated with fuscous, suffused with purplish and slightly irrorated with grey. Fore wing with four indistinct rufous sinuous bands; hind wing with two bands and a white speck at end of cell; both wings with marginal series of white specks. Underside grey, irrorated with fuscous; the outer area darker.

Hab. Japan; throughout India and Ceylon. *Exp.* 34 millim.

3276. **Dilinia albopunctata**, *Swinh. Trans. Ent. Soc.* 1891, p. 491.

Yellow-brown, irrorated with grey and fuscous. Fore wing with four indistinct bands of grey and fuscous specks; a diffused apical white patch; hind wing with three bands; both wings with a marginal series of white specks. Underside brownish grey suffused with pink, and the greater part of the hind wing with orange.

Hab. Khásis. *Exp.* 36 millim.

SECT. II. (*Dilinia*). Male with a fovea at the base of vein 8 of hind wing, which does not approximate to cell except near base.

3277. **Dilinia vexillaria**, *Guen. Phal.* ii, p. 138; *Moore, Lep. Ceyl.* iii, pl. 193, fig. 3; *C. & S.* no. 3423 (part.).

Hyperythra riobearia, *Wlk. Cat.* xx, p. 129; *C. & S.* no. 3151.

Alana theclaria, *Wlk. Cat.* xxxv, p. 1567.

Bright rufous, slightly suffused with fuscous; antennæ blackish; wings striated with fuscous. Fore wing with the costa fuscous; indistinct antemedial and medial straight lines; a black speck at end of cell; an irregularly sinuous submarginal line, with fuscous and grey patches beyond it below apex and at middle. Hind wing with white speck at end of cell; very indistinct antemedial and medial diffused lines and irregularly sinuous submarginal line. Underside brownish ochreous; the base of the wings suffused with red; the outer area with fuscous.

Hab. Nepal; Sikhim; Khásis; Nilgiris; Ceylon; Borneo; Celebes. *Exp.* 36–42 millim.

Genus HYPEPHYRA.

Hypephyra, *Butl. Ill. Het.* vii, p. 101 (1889).

Type, *H. terrosa*, Butl.

Range. N.W. Himalayas.

Palpi hairy and reaching beyond the sharp frontal tuft; antennæ of male ciliated; hind tibiæ dilated. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked, from before upper angle; 10 absent; 11 free. Hind wing with vein 3 from before angle of cell.

3278. **Hypephyra terrosa,** *Butl. Ill. Het.* vii, p. 101, pl. 135, fig. 17.

Palpi grey, irrorated with fuscous; the wings irrorated with bluish silvery scales; antemedial and medial sinuous rufous lines; a dark spot at end of cell; a crenulate postmedial black line with some rufous inside it and some dark suffusion with dentate outer edge béyond it on inner area. Hind wing with black speck at end of cell, and indistinct waved antemedial, medial, and submarginal lines. Underside fulvous yellow, with black cell-spots and postmedial line with black patch beyond it on inner area of fore wing and black irroration on hind wing.

Hab. Simla; Dharmsála. *Exp.*, ♂ 46, ♀ 40 millim.

Genus HYPERYTHRA.

Hyperythra, *Guen. Phal.* i, p. 99 (1857).
Syrrhodia, *Hübn. Verz.* p. 300 (? 1818), non descr.
Petrodava, *Wlk. Cat.* xxvi, p. 1656 (1862).
Pseuderythra, *Swinh. Trans. Ent. Soc.* 1894, p. 204.

Type, *H. lutea*, Cram.

Range. Neotropical, Ethiopian, and Oriental regions; New Guinea.

Palpi hairy and reaching well beyond the frons; a sharp frontal tuft; antennæ of male bipectinated to two-thirds length; fore tibia with the process large. Fore wing of male typically with a slight fovea below base of median nervure; the apex somewhat acute; vein 3 from angle of cell; 7, 8, 9, 10 stalked, from near upper angle; 11 free. Hind wing with the outer margin crenulate; vein 3 from angle of cell.

In *Syrrhodia*, the W. Indian and S. American section, the males have a large membranous vesicle at base of hind wing below, and no fovea to fore wing.

Sect. II. (*Hyperythra*). Males with the costa of hind wing highly arched; a very long tuft of hair from base of cell lying in a fold above vein 6; the cell very short and open.

3279. **Hyperythra lutea,** *Cram. Pap. Exot.* iv, p. 157, pl. 370, figs. C, D; *C. & S.* no. 3148.
Phalæna flavaria, *Fabr. Mant. Ins.* ii, p. 187.
Phalæna flavata, *Fabr. Ent. Syst.* iii, 2, p. 169.

Hyperythra limbolaria, *Guen. Phal.* i, p. 101, pl. 3, figs. 3, 4.
Hyperythra penicillaria, *Guen. Phal.* i, p. 101.
Hyperythra ennomaria, *Guen. Phal.* i, p. 103; *C. & S.* no. 3147.
Aspilates susceptaria, *Wlk. Cat.* xxxv, p. 1664.
Hyperythra lala, *Swinh. Trans. Ent. Soc.* 1890, p. 205.

♂. Yellow, suffused with pink and striated with fuscous; some white on palpi and shaft of antennæ. Fore wing with indistinct antemedial line angled below costa; medial and postmedial ill-defined, slightly curved pinkish bands. Hind wing with similar narrow antemedial and broad postmedial bands, the latter with one or two black marks on it below costa. Underside bright yellow, with the area beyond the postmedial line more or less completely coloured pink; fore wing with a whitish patch below apex. The pink suffusion of upper and undersides varies greatly in extent.

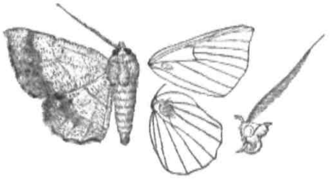

Fig. 119.—*Hyperythra lutea*, ♂. ½.

♀. Much brighter yellow, with three lines to fore wing and two to hind wing replacing the bands and usually prominent.

The form *lala* is dull brownish yellow; *ennomaria* is pale reddish brown without yellow tinge; the underside of male reddish brown.

Hab. China; throughout India, Ceylon, and Burma; Andamans; Sumatra; Java; New Guinea. *Exp.*, ♂ 36–40, ♀ 38–46 millim.

SECT. III. (*Petrodava*). Males without secondary sexual characters on hind wing.

3280. **Hyperythra swinhoei,** *Butl. A. M. N. H.* (5) v, p. 223; *C. & S.* no. 3153.
Hyperythra phantasma, *Butl. P. Z. S.* 1881, p. 615; *C. & S.* no. 3150.

♂. Pale yellowish brown, slightly irrorated with fuscous. Fore wing with speck at end of cell; indistinct antemedial, medial, and postmedial lines, the first angled below costa, the two latter arising from dark patches on the costa. Hind wing with ante- and post-medial lines, the latter with two dark marks beyond it below costa. Underside bright yellow or ochreous brown.

♀. Grey-green; the underside yellow-green; some specimens are pale pink on upper and undersides.

Hab. Campbellpur; Jubbulpore; Karáchi; Mhow. *Exp.*, ♂ 34, ♀ 38 millim.

3281. **Hyperythra phœnix,** *Swinh. Trans. Ent. Soc.* 1891, p. 484.
Catopyrrha khasiana, *Swinh. A. M. N. H.* (6) xii, p. 221.

Differs from *lutea* in being olive-green, without pink suffusion on upper or undersides; the indistinct bands reddish; underside

with the apical grey patch of fore wing prominent; the postmedial line of both wings prominent.

The form *khasiana* is without the greenish tinge, and more rufous and yellow.

Hab. Sikhim; Khásis; Nágas. *Exp.*, ♂ 46–48, ♀ 52 millim.

Genus **ANTHYPERYTHRA**.

Anthyperythra, *Swinh. Trans. Ent. Soc.* 1891, p. 485.

Type, *A. hermearia*, Swinh.

Range. Khásis.

Palpi thickly scaled and reaching beyond the sharp frontal tuft; antennæ of male bipectinated to three-fourths length; hind tibiæ not dilated. Fore wing with the apex acute; vein 3 from before angle of cell; 7, 8, 9 stalked, from before upper angle; 10 and 11 free. Hind wing with vein 3 from before angle of cell.

3282. **Anthyperythra hermearia**, *Swinh. Trans. Ent. Soc.* 1891, p. 485, pl. 19, fig. 9.

♂. Mustard-yellow; head and collar chocolate; wings slightly irrorated with brown. Fore wing with the costa chocolate; an indistinct spot at end of cell; an indistinct oblique postmedial line with chocolate blotch on it towards inner margin and pink suffusion on apical area; a chocolate spot on outer margin below apex. Hind wing with oblique medial line, the area beyond it suffused with pink.

Hab. Khásis. *Exp.* 44 millim.

Genus **CROCOTA**.

Crocota, *Hübn. Verz.* p. 295 (? 1818).

Type, *C. lutearia*, Linn., from Europe.

Range. Palæarctic region; Khásis; Nágas.

Palpi hairy and reaching beyond the frons; antennæ of male bipectinated to tips; hind tibiæ not dilated. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked, from before upper angle; 11 anastomosing with 12, then touching 10, which touches 8 and 9. Hind wing with vein 3 from before angle of cell.

In the typical section veins 10 and 11 of fore wing arise from cell.

SECT. II. Fore wing with veins 10 and 11 stalked.

3283. **Crocota niguzaria**, *Wlk. Cat.* xx, p. 129; *C. & S.* no. 3149.

♂. Ochreous, irrorated with black; branches of antennæ black. Fore wing with diffused antemedial fuscous band not reaching costa; a spot at end of cell; a diffused postmedial band with diffused

dentate band beyond it, neither extending to costa. Hind wing with two indistinct diffused postmedial bands.

Hab. Khásis. *Exp.* 46 millim.

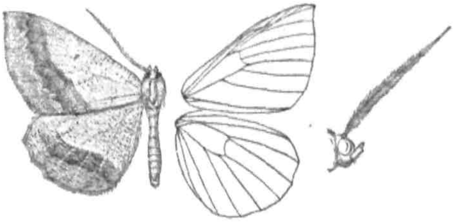

Fig. 120.—*Crocota niguzaria*, ♂. ½.

3284. **Crocota ventraria**, *Guen. Phal.* i, p. 294; *C. & S.* no. 3419.
Angerona aimylusaria, *Wlk. Cat.* xx, p. 244.
Scotosia subemersa, *Wlk. Cat.* xxv, p. 1363.

Head, thorax, and abdomen reddish fuscous; antennæ rufous; wings ochreous striated with fuscous; a nearly straight oblique antemedial line from subcostal nervure to inner margin; a similar slightly curved postmedial line with the area inside it ochreous, with hardly any striation, this pale area widest at costa. Hind wing with slightly sinuous postmedial line; both wings with the outer area reddish fuscous. Underside greyish fuscous.

Hab. Sylhet; Nágas. *Exp.* 52 millim.

Genus PSYRA.

Psyra, *Wlk. Cat.* xxi, p. 482 (1860).
Orbasia, *Swinh. Trans. Ent. Soc.* 1894, p. 222.

Type, *P. cuneata*, Wlk.

Range. Japan; Himalayas; Khásis.

Palpi hairy, upturned, and not reaching vertex of head; antennæ of male somewhat thickened and flattened; hind tibiæ greatly dilated, the spurs short. Fore wing with the apex acute; the outer margin angled at middle; vein 3 from before angle of cell; 7, 8, 9, 10 stalked; 11 just touching 12 and then 10. Hind wing with the outer margin slightly produced at veins 4 and 7; vein 3 from before angle of cell.

3285. **Psyra spurcataria**, *Wlk. Cat.* xxvi, p. 1498; *C. & S.* no. 3152.

♂. Yellow-brown, irrorated with fuscous; abdomen with paired black dorsal spots on proximal segments. Fore wing with the costa tinged with scarlet; an irregular antemedial line, often with dark suffusion beyond it; a spot at end of cell; a postmedial oblique line with an obliquely curved line beyond it, and often black suffusion between them and black spots beyond it above inner margin and on vein 5. Hind wing with oblique medial line

with dentate line beyond it, and usually dark suffusion between the two lines; the apical part of margin suffused with fuscous; both wings with marginal series of black specks.

♀. Redder brown.

Hab. N.W. Himalayas; Sikhim; Khásis. *Exp.* 50–56 millim.

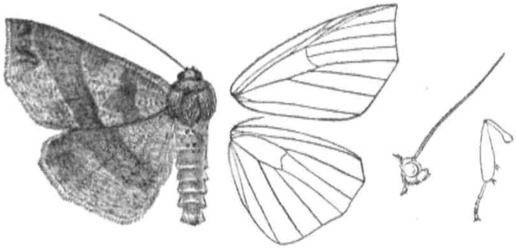

Fig. 121.—*Psyra spurcataria*, ♂. ½.

3286. **Psyra trilineata,** *Moore, P. Z. S.* 1867, p. 619; *C. & S.* no. 3154.

♀. Differs from *spurcataria* in having on the fore wing an oblique rufous submarginal line instead of the black spots; hind wing with a nearly straight indistinct submarginal line.

Hab. "Bengal." *Exp.* 55 millim.

3287. **Psyra indica,** *Butl. Ill. Het.* vii, p. 99, pl. 135, fig. 16.

♀. Vinous brown, slightly irrorated with fuscous; palpi black; vertex of head and antennæ yellow. Fore wing with antemedial, medial, and postmedial black spots on costa and indistinct slightly sinuous bands arising from them; a submarginal sinuous black line expanding into small spots towards costa. Hind wing with two medial waved lines and fuscous suffusion between them; an indistinct submarginal line; both wings with marginal series of specks. Underside yellow.

Hab. Dharmsála. *Exp.* 56 millim.

3288. **Psyra debilis,** *Warr. P. Z. S.* 1888, p. 319; *C. & S.* no. 3426 A.

Differs from *indica* in the ground-colour being straw-yellow.

Hab. Thundiáni, Punjab. *Exp.* 44 millim.

3289. **Psyra angulifera,** *Wlk. Cat.* xxxv, p. 1687; *C. & S.* no. 3425.

Purplish grey, irrorated with fuscous; palpi black; antennæ fulvous; metathorax with two black specks. Fore wing with indistinct antemedial, postmedial, and submarginal lines with jet-black yellow-edged spots on them, the antemedial line with lunulate spot above inner margin, the submarginal with three triangular spots, the spot on vein 5 double; a double spot at end of cell and marginal series of spots. Hind wing with marginal series of specks.

Hab. Dharmsála; Sikhim. *Exp.*, ♂ 42, ♀ 50 millim.

3290. **Psyra cuneata,** *Wlk. Cat.* xxi, p. 483; *C. & S.* no. 3426.
Psyra similaria, *Moore, P. Z. S.* 1867, p. 659, pl. 33, fig. 1; *C. & S.* no. 2427.

Differs from *angulifera* in the ground-colour being dull ochreous or yellow; in the Eastern form, *similaria*, bright yellow.

Hab. Japan; N.W. Himalayas; Sikhim; Khásis. *Exp.* 44–52 millim.

Genus PERICALLIA.

Pericallia, *Steph. Ill. Brit. Ent. Haust.* iii, p. 171 (1829).
Hygrochroa, *Hübn. Verz.* p. 293 (? 1818), non descr.

Type, *P. syringaria*, Linn., from Europe.

Range. Palæarctic and Ethiopian regions; Sikhim; Khásis; Manipur; Burma.

Palpi reaching beyond the frontal tuft, the 2nd joint clothed with long hair; antennæ bipectinated to near apex, the branches longer in the male than the female; hind tibiæ not dilated. Fore wing with the outer margin excurved at middle; vein 3 from before angle of cell; 7, 8, 9 stalked, from before upper angle; 10 and 11 free. Hind wing with vein 3 from before angle of cell.

In the typical section the costa of fore wing is arched at base, excised and contorted beyond middle; hind wing with the outer margin excised between veins 4 and 6.

SECT. II. Fore wing with the costa straight; hind wing with the outer margin angled at vein 4.

A. *Cilia non-crenulate.*

3291. **Pericallia lugens,** *Butl. A. M. N. H.* (5) vi, p. 123; *id. Ill. Het.* vi, pl. 114, fig. 2; *C. & S.* no. 3181.

Olive-brown, striated with rufous; palpi orange. Fore wing with waved antemedial line with purple-grey on its inner edge; a speck at end of cell; a postmedial line slightly curved below costa and with purple-grey on its outer edge; an indistinct lunulate submarginal purple line. Hind wing with speck at end of cell; a postmedial line slightly angled at middle, with a brown band inside it, the two forming a triangle, and with purplish on its outer edge; a lunulate submarginal purple line with black spots inside the lunules above veins 3 and 6. Underside orange, with a prominent brown and purple postmedial line with rufous suffusion beyond it in male.

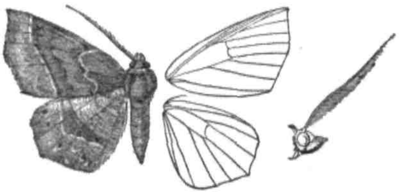

Fig. 122.—*Pericallia lugens*, ♂. ½.

Hab. Sikhim. *Exp.*, ♂ 42, ♀ 46 millim.

3292. **Pericallia gynopteridia**, *Butl. A. M. N. H.* (5) vi, p. 123; *id. Ill. Het.* vi, pl. 114, fig. 1; *C. & S.* no. 3176.

♂. Differs from *lugens* in being pale rufous with no purple-grey markings. Fore wing with the antemedial line straight and angled below the costa; a dark spot at apex, and no lunulate submarginal line. Hind wing with the triangular medial band prominent and no submarginal lunulate line. Underside yellower, with the line nearly medial and slight rufous suffusion beyond it.

Hab. Sikhim; Khásis. *Exp.* 36 millim.

3293. **Pericallia angulifascia**, *Moore, P. Z. S.* 1878, p. 851, pl. 53, fig. 11; *C. & S.* no. 3146.

♂. Differs from *lugens* in being purplish grey with a vinous tinge and no purple markings. Fore wing with the antemedial line evenly curved; the postmedial line angled below costa, then incurved, and with a dark band inside it; a reddish apical patch and no submarginal line. Hind wing with the medial triangular band more angled; some dark suffusion on anal area and red spot on margin at angle, but no submarginal line. Underside yellow, with dark suffusion beyond the postmedial line and whitish patches at outer angle of both wings.

♀. Browner above; more olive below; the cilia more crenulate.

Hab. Khásis; E. Pegu; Tenasserim. *Exp.* 38 millim.

3294. **Pericallia viridescens**, *Warr. Nov. Zool.* p. 443.

♂. Differs from *lugens* in being sap-green; the outer area of both wings and the basal and costal area of both wings suffused with grey. Underside with yellowish green replacing the yellow and red; no rufous beyond the dark and white postmedial line.

Hab. Khásis. *Exp.* 40 millim.

B. *Cilia highly crenulate.*

3295. **Pericallia albifrons**, *Moore, Lep. Atk.* p. 229; *C. & S.* no. 3178.

♂. Rich chocolate; the vertex of head white; wings striated with grey. Fore wing with a curved antemedial purple and dark line; both wings with a slightly waved postmedial purple and dark line angled at vein 5, and indistinct lunulate purple submarginal line with a dark spot inside it below vein 4; the veins dark. Underside orange with red striæ; a lunule at end of cell of each wing and a straight black and purple postmedial line with some purple suffusion beyond it.

Hab. Sikhim; Manipur. *Exp.* 42 millim.

Genus **FASCELLINA**.

Fascellina, *Wlk. Cat.* xx, p. 215 (1860).

Type, *F. chromataria*, Wlk.

Range. Throughout the Himalayas and Assam; Nilgiris; Ceylon; Burma; Andamans; Sumatra; Celebes.

Eyes hairy; palpi stout and reaching vertex of head, the 1st joint hairy, the 3rd minute; antennæ with cilia and bristles; abdomen stout; hind tibiæ not dilated. Fore wing with the costa arched towards apex; vein 3 from close to angle of cell; 5 from above middle of discocellulars; 7, 8, 9 stalked from before upper angle; 10 and 11 stalked and joined by bars to 12 and 8, 9. Hind wing with vein 3 from close to angle of cell.

SECT. I. Fore wing with the outer and inner margins excised towards outer angle; hind wing with the costa and apex more or less truncate and excised.

A. *Cilia non-crenulate.*

3296. **Fascellina chromataria**, *Wlk. Cat.* xx, p. 215; *Hmpsn. Ill. Het.* ix, pl. 168, fig. 2; *C. & S.* no. 2821.
Fascellina celata, *Wlk. Cat.* xxxv, p. 1554.
Fascellina olivataria, *Wlk. Cat.* xxxv, p. 1555.
Fascellina clausaria, *Wlk. Cat.* xxxv, p. 1556.
Geometra usta, *Wlk. Cat.* xxxv, p. 1602; *C. & S.* no. 3212.
Fascellina castanea, *Moore, P. Z. S.* 1877, p. 612; *C. & S.* no. 2820.
Fascellina ceylonica, *Moore, Lep. Ceyl.* iii, p. 394, pl. 187, figs. 3, 3 *a* (larva).

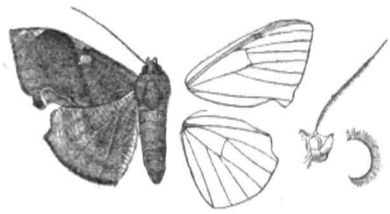

Fig. 123.—*Fascellina chromataria*, ♂. ¾.

♂. Deep red-brown, with an olive shade and slightly suffused with purplish grey; wings with dark striæ. Fore wing with the costa greyish; an oblique antemedial line angled below costa; a yellowish spot at end of cell often with a hyaline centre; traces of a postmedial line; a curved and waved purplish-grey submarginal line angled below costa, and on the hind wing becoming postmedial. Underside of fore wing with the basal half yellow, the outer brown, bright red-brown inside the postmedial line, which is prominent, purple, and angled, or with a quadrate sinus below costa and often waved towards inner margin. Hind wing yellow, suffused and striated with rufous on outer area; indistinct postmedial and curved crenulate submarginal line.

♀. Redder.

Larva purplish black; the thoracic segments with irregular purple-red markings; 4th to 6th and anal segment with dorsal red markings and paired red papillæ; head cleft and produced to two papillæ. Food-plant *Cinnamomea.*

Hab. Sikhim; Assam; Nilgiris; Ceylon; Tenasserim; Andamans; Sumatra; Celebes. *Exp.*, ♂ 38, ♀ 44 millim.

3297. **Fascellina hypochryseis**, *Swinh. A. M. N. H.* (6) xiv, p. 138.

♂. Dark olive-green. Fore wing with antemedial grey line angled below costa, and with a grey patch on the costa beyond it; a hyaline speck at end of cell; traces of two lines from near end of cell to inner margin; some grey at outer angles. Hind wing with traces of curved grey postmedial line. Underside of fore wing greenish with purple striæ, the costa yellow from base to the band, the postmedial line angled below costa, then straight, with a large green patch inside it, and with a rufous patch on it at costa; apical area grey: hind wing bright yellow with rufous specks; outer area tinged with rufous, a postmedial series of specks.

Hab. Khásis. *Exp.* 38 millim.

3298. **Fascellina plagiata**, *Wlk. Cat.* xxxv, p. 1601; *C. & S.* no. 3209.
Fascellina viridis, *Moore, P. Z. S.* 1867, p. 79, pl. 7, fig. 4; *C. & S.* no. 2822.

Bright green; the head, collar, and costa of fore wing fawn-colour. Fore wing with dark antemedial disconnected line angled below costa; a curved sinuous postmedial line, double towards inner margin, and with a white speck beyond it on costa; the outer area below vein 6 purplish brown. Hind wing with double medial brown line and highly curved dark submarginal line. Underside of fore wing with fuscous striæ on basal area; the postmedial line prominent, angled below costa, and with dark green inside it. Hind wing yellow, with the lines prominent.

Hab. Simla; Sikhim; Assam. *Exp.* 40 millim.

B. *Cilia of both wings highly crenulate.*

3299. **Fascellina vinosa**, *Warr. P. Z. S.* 1893, p. 398, pl. 32, fig. 21.

♂. Head, thorax, and abdomen grey-brown; wings clothed with purple, chestnut, rufous, and ochreous scales. Fore wing with ochreous patches at end of cell and below apex; traces of ante- and postmedial bands, the latter highly angled below costa, and with a whitish patch beyond it on costa and a white and black patch on inner margin. Hind wing with an olive-green medial band obsolete on costal area. Underside grey, with ill-defined postmedial band of olive, purple, rufous, and black scales, the area beyond it browner except on apical and anal areas.

Hab. Sikhim. *Exp.* 30 millim.

Sect. II. Fore wing with the outer margin excised towards outer angle, but not the inner margin. Hind wing with the apex slightly truncate.

3300. **Fascellina subsignata**, *Warr. P. Z. S.* 1893, p. 399.
Fascellina curtaca, *Swinh. A. M. N. H.* (6) xii, p. 220.

♂. Differs from *chromataria* in being olive-green. Fore wing

with the medial line more angled below costa; the postmedial evenly curved and double after being bent outwards; no purple on outer area. Hind wing greenish ochreous; the outer area much suffused with olive-green; a double straight postmedial line and highly curved submarginal line. Underside yellow, with green and white on costal and outer areas of fore wing.

Hab. Sikhim; Khásis. *Exp.* 36 millim.

3301. **Fascellina dacoda,** *Swinh. A. M. N. H.* (6) xii, p. 221; *id. Trans. Ent. Soc.* 1894, p. 201, pl. ii, fig. 7.

Differs from *subsignata* in the ground-colour being shades of rufous, orange, and green; the lines of fore wing obsolete except the inner part of the double postmedial line. Hind wing with the submarginal line obsolete. Underside more orange; the postmedial line of fore wing with large sinus below costa, then bent in to near the cell, then outwards again; hind wing with no submarginal line.

Hab. Khásis. *Exp.* 38 millim.

SECT. III. Fore wing with neither inner nor outer margin excised. Hind wing with the apex truncate.

3302. **Fascellina porphyreofusa,** n. sp.

♂. Red-brown, suffused with purple. Fore wing with a deep red fascia below subcostal nervure from base to end of cell; indistinct oblique nearly straight antemedial and medial rufous lines, the postmedial line angled below costa, then oblique and double to inner margin; an indistinct highly dentate submarginal line. Hind wing with double medial straight line, the area beyond it much suffused with purple; a highly dentate purple submarginal line. Underside with numerous dark striæ on basal half; the outer area bright chestnut, which is brightest inside the purple line of fore wing.

Hab. Sikhim (*Dudgeon*). *Exp.* 38 millim. Type in B. M.

SECT. IV. Fore wing with neither inner nor outer margin excised. Hind wing with the apex not truncate.

3303. **Fascellina rectimarginata,** *Warr. Nov. Zool.* p. 446.
Fascellina cyanifera, *Swinh. Trans. Ent. Soc.* 1894, p. 201, pl. ii, fig. 13.

♂. Differs from *chromataria* in being dark olive-green with a purplish tinge. Fore wing with some silvery purple on middle of costa and on outer area; the postmedial line slightly waved below the angle; traces of a waved submarginal line. Hind wing with the postmedial line not waved and angled outwards on vein 4; the outer area with ill-defined purple bands and a dentate line near apex. Underside of fore wing with the postmedial line much

more angled and with yellow in the angle. Hind wing with postmedial and submarginal lines.

♀. Redder.

Hab. Khásis. *Exp.*, ♂ 36, ♀ 40 millim.

3304. **Fascellina hypochlora,** *Swinh. A. M. N. H.* (6) xiv, p. 137.

♂. Differs from *rectimarginata* in being bright deep green suffused with silvery grey, except before the postmedial line at costa of fore wing and on hind wing. Underside with different shades of green replacing the yellow and red.

Hab. Khásis. *Exp.* 42 millim.

3305. **Fascellina inornata,** *Warr. P. Z. S.* 1893, p. 399.

♂. Differs from *rectimarginata* in being rufous striated and suffused with fuscous. Fore wing with white on outer area instead of purple. Hind wing with the line straight. Underside yellower, with the postmedial line nearer the margin and with a rounded sinus below the costa.

Hab. Sikhim. *Exp.* 40 millim.

Genus **LEPTOMIZA.**

Leptomiza, *Warr. P. Z. S.* 1893, p. 406.
Prionodonta, *Warr. P. Z. S.* 1893, p. 401 (*nec* Prionodon, *Horsf.*).
Mimochroa, *Warr. Nov. Zool.* p. 443 (1894).
Leptodontopera, *Warr. Nov. Zool.* p. 445.

Type, *L. calcearia*, Wlk.

Range. N.W. Himalayas; Sikhim; Khásis.

Palpi with the 2nd joint upturned and hairy, the 3rd naked and porrect; hind tibiæ not dilated; wings with the outer margin irregular. Fore wing with vein 3 from near angle of cell; 7, 8, 9, stalked from before upper angle; 10 and 11 from cell and usually free. Hind wing with vein 3 from near angle of cell.

SECT. I. (*Leptodontopera*). Antennæ of male bipectinated for three-fourths length.

A. *Fore wing with vein* 11 *anastomosing with* 12 *and then with* 10; *both wings with the margin produced to points at veins* 4 *and* 6.

a. *Male without secondary sexual characters on legs.*

3306. **Leptomiza decorata,** *Moore, P. Z. S.* 1867, p. 621, pl. 32, fig. 9; *C. & S.* no. 3164.

Grey, irrorated with fuscous and with a slight vinous tinge. Fore wing with curved and dentate antemedial chocolate line with sap-green band inside it from below costa to inner

margin; a similar postmedial line with dentate green band outside it; a dark speck at end of cell; some dark suffusion on marginal area below apex and on inner margin. Hind wing with dark speck at end of cell; dentate postmedial chocolate line; a submarginal band of green spots with pale line beyond them, most prominent towards anal angle; some dark marks on margin.

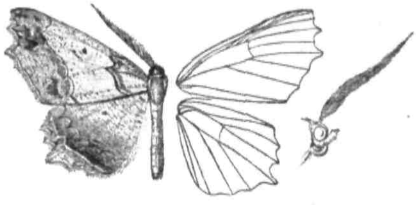

Fig. 124.—*Leptomiza decorata*, ♂. ½.

Hab. Sikhim; Khásis. *Exp.* 48 millim.

b. *Male with a ridge of long spatulate scales from base of hind legs; hind tibiæ dilated and with tuft of long hair from base.*

3307. **Leptomiza codra,** *Swinh. Trans. Ent. Soc.* 1891, p. 486, pl. 19, fig. 8.

♂. Differs from *decorata* in the fore wing having no green on the lines; the antemedial line not waved, very highly angled to lower angle of cell, and with fuscous inside of it; the postmedial line not waved, double, bent outwards between vein 4 and the costa, and with fuscous suffusion beyond it. Hind wing with traces only of the dentate postmedial line; the submarginal line with no green on it

Hab. Khásis. *Exp.* 44 millim.

B. *Fore wing with the outer margin produced at veins* 4 *and* 6; *hind wing with the apex excised; the outer margin produced at veins* 4, 6, *and* 7; *antennæ of male with long branches.*

3308. **Leptomiza translineata,** *Wlk. Char. undescr. Het.* p. 93; *C. & S.* no. 2797.

Odontopera nemea, *Swinh. Trans. Ent. Soc.* 1891, p. 485, pl. 19, fig. 5.

♂. Reddish brown, irrorated with fuscous; frons whitish, with dark band above it. Fore wing with a rufous and fuscous streak below subcostal nervure from base to apex; a nearly erect antemedial fuscous line; a spot at end of cell; an erect line from three-fourths length of costa to outer angle; an indistinct irregularly sinuous submarginal line, with white subapical spot on it. Hind wing with subbasal and antemedial indistinct sinuous lines; black speck at end of cell; curved postmedial series of specks; an oblique line from apex to outer margin below vein 6. Underside much suffused with brown, and with pale patch at middle of outer margin of each wing.

Hab. Khásis. *Exp.* 50 millim.

SECT. II. (*Prionodonta*). Antennæ of male serrate; outer margin of both wings highly crenulate.

3309. **Leptomiza amethystina,** *Warr. P. Z. S.* 1893, p. 402, pl. 31, fig. 13.

♂. Head green and ochreous; thorax and abdomen purple and black. Wings striated with black; the basal one-third purple with black outer edge and a bright green patch on base of costa of fore wing; a broad green medial band with waved edges and narrowing to inner margin of hind wing; the outer third purple, with large green patches at apex of each wing and black submarginal line obsolescent towards apex of each wing and waved on hind wing.

Hab. Sikhim. *Exp.* 48 millim.

SECT. III. Antennæ of male ciliated.

A. (Mimochroa). *Outer margin of each wing highly crenulate.*

3310. **Leptomiza basipuncta,** *Moore, P. Z. S.* 1867, p. 621; *C. & S.* no. 3180.

♂. Bright rufous, slightly irrorated with black. Fore wing with the costal area greyish; a hyaline basal speck; slightly waved curved antemedial and medial lines; a speck at end of cell; a postmedial sinuous series of black specks, with fuscous suffusion beyond them below apex and a black spot above inner margin. Hind wing with traces of subbasal, medial, and postmedial waved lines. Underside with the ground-colour paler and the lines more prominent.

Hab. Sikhim. *Exp.* 32 millim.

*3311. **Leptomiza anticleata,** *Moore, Lep. Atk.* p. 229; *C. & S.* no. 3179.

Differs from *basipuncta* in being paler. Fore wing with subbasal, double antemedial and medial slightly waved lines, the last becoming treble below vein 4; a postmedial line from the costa to vein 4; the margin deeply excised below the apex. Hind wing unmarked except for a dark marginal line.

Hab. Sikhim. *Exp.* 34 millim.

*3312. **Leptomiza? olivescens,** *Moore, Lep. Atk.* p. 228; *C. & S.* no. 3200.

♂. Olive-brown, slightly irrorated with fuscous. Fore wing with a speck at end of cell; an oblique line from vein 4 to inner margin, with a white spot inside it at lower angle of cell. Hind wing with medial line; a large brown-speckled white patch in end of cell and two similar submarginal spots; a yellowish lunule at anal angle.

Hab. Sikhim. *Exp.* 45 millim.

B. (Leptomiza). *Fore wing with the outer margin produced at veins 4 and 6; hind wing with the outer margin angled at vein 4.*

3313. **Leptomiza calcearia**, *Wlk. Cat.* xx, p. 132; *C. & S.* no. 3163.

♀. Head, thorax, and abdomen rufous; wings rufous with darker striæ; a yellow spot at end of cell of fore wing; a broad olive-yellow band from costa before apex to middle of inner margin of hind wing, with a crenulate silvery line on its outer edge and some rufous spots beyond it.

Hab. N.W. Himalayas; Sikhim. *Exp.* 40 millim.

C. *Fore wing with the outer margin not produced at vein 6; both wings with it angled at vein 4.*

3314. **Leptomiza dentilineata,** *Moore, Lep. Atk.* p. 228; *C. & S* no. 3165.

♂. Differs from *calcearia* in the ground-colour being olive. Fore wing with a waved silvery antemedial line on a purplish band; the oblique line of both wings with purplish beyond it and a broad olive-green band inside it; some purple on the margin.

Hab. Sikhim. *Exp.* 38 millim.

Genus **CROCALLIS**.

Crocallis, *Treitschke, Eur. Schmett.* vi, i, p. 151 (1827).
Odontopera, *Steph. Ill. Brit. Ent., Haust.* iii, p. 162 (1829).
Gonodontis, *Hübn. Verz.* p. 287 (? 1818), non descr.
Corotia, *Moore, P. Z. S.* 1867, p. 624.
Niphonissa, *Butl. A. M. N. H.* (5) i, p. 394 (1878).

Type, *C. tusciaria*, Borkh., from Europe.

Range. Europe; Japan; Himalayas; Khásis.

Head and thorax very hairy; palpi hairy and reaching beyond the frons; hind tibiæ not dilated. Fore wing with the outer margin usually highly crenulate and produced at veins 4 and 6; vein 3 from near angle of cell; 7, 8, 9 stalked from near upper angle, 10 and 11 free. Hind wing with the margin usually crenulate; vein 3 from close to angle of cell.

SECT. I. Antennæ of male thickened and flattened, outer margin of fore wing angled at vein 4.

3315. **Crocallis lentiginosaria,** *Moore, P. Z. S.* 1867, p. 622; *C. & S.* no. 3169.
Crocalis similaria, *Moore, Lep. Atk.* p. 227; *C. & S.* no. 3171.

♂. Brownish ochreous, slightly irrorated with fuscous. Fore wing suffused with grey-brown; a small annulus at end of cell; traces of ante- and postmedial lines, which approach each other towards inner margin, the latter with white specks on the veins.

Hind wing with small annulus at end of cell and indistinct postmedial line.

Lentiginosaria is a large form with the margin of the fore wing angled at vein 4, but not toothed at vein 6 as in *similaria*, which is smaller.

Hab. Kulu; Dharmsála; Sikhim. *Exp.* 54–60 millim.

SECT. II. Antennæ of male bipectinated, with short spatulate branches.

A. (Odontopera). *Fore wing with the outer margin angled.*

3316. **Crocallis obliquaria**, *Moore, P. Z. S.* 1867, p. 622; *C. & S.* no. 3170.

Crocalis angularia, *Moore, P. Z. S.* 1867, p. 622; *C. & S.* no. 3166.
Crocalis bivittaria, *Moore, P. Z. S.* 1867, p. 622; *C. & S.* no. 3167.
Crocalis arida, *Butl. A. M. N. H.* (5) i, p. 394.
Crocalis bilinearia, *Swinh. P. Z. S.* 1889, p. 423.
Crocallis heydena, *Swinh. Trans. Ent. Soc.* 1894, p. 203.

Differs from *lentiginosaria* in having the postmedial line of fore wing prominent and usually with pale outer edge.

The outer margin may be hardly crenulate or strongly toothed;

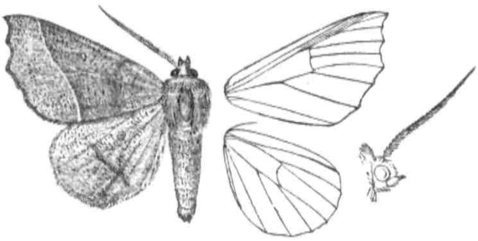

Fig. 125.—*Crocallis obliquaria*, ♂. ½.

the ground-colour much yellower with fuscous blotches; the antemedial line may be prominent or entirely obsolete and in typical *obliquaria* the postmedial line of the fore wing is straight and oblique from near the apex.

Hab. Japan; N.W. Himalayas; Khásis. *Exp.* 42–60 millim.

B. (Corotia). *Fore wing with the outer margin evenly curved.*

3317. **Crocallis cervinaria**, *Moore, P. Z. S.* 1867, p. 625, pl. 32, fig. 10; *C. & S.* no. 3240.

♂. Reddish grey, irrorated with fuscous. Fore wing with very indistinct curved ante- and postmedial lines; a grey discal patch. Hind wing with grey discal spot and postmedial line. Underside with the discal spots prominent.

Hab. Sikhim; Khásis. *Exp.* 50 millim.

SECT. III. (*Crocallis*). Antennæ of male with the branches longer, wings with the margin evenly curved.

3318. **Crocallis kametaria**, *Feld. Reis. Nov.* pl. 123, fig. 28; *C. & S.* no. 3168.

Yellowish fulvous. Fore wing with the ground-colour whitish; the costa fulvous; a broad fulvous medial band widest at costa, narrowest at middle, and with a pale patch on it surrounding a small annulus at end of cell; some fulvous irroration on outer area. Hind wing pale, with indistinct medial oblique fulvous band; cilia of both wings chequered fulvous and white.

Hab. "Rampur, Himalaya"; Murree. *Exp.* 38 millim.

Genus GARÆUS.

Garæus, *Moore, P. Z. S.* 1867, p. 623.
Epifidonia, *Butl. P. Z. S.* 1886, p. 391.
Pseudomiza, *Butl. Ill. Het.* vii, p. 100 (1889).

Type, *G. specularis*, Moore.

Range. Japan; Himalayas; Assam.

Eyes hairy; palpi with the 2nd joint reaching vertex of head and fringed with long hair in front, the 3rd prominent; antennæ of male bipectinate to apex, of female serrate; thorax and abdomen hairy; hind tibiæ not dilated. Fore wing with the costa slightly excised, the apex somewhat produced and falcate; vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 and 11 free. Hind wing with vein 3 from before angle of cell.

SECT. I. Both wings with the outer margin crenulate.

3319. **Garæus specularis**, *Moore, P. Z. S.* 1867, p. 623, pl. 32, fig. 3; *C. & S.* no. 3184.

Head and collar dark rufous, the latter fringed with grey; thorax and abdomen orange-red, with some purplish suffusion. Fore wing orange-red, striated and suffused with purplish brown; a curved antemedial sinuous purplish-brown line; a spot at end of cell; a postmedial line angled below costa, then oblique to inner margin, and with two hyaline spots on its inner edge at lower angle of cell; a crenulate submarginal line. Hind wing with a hyaline spot in cell and two or three below the angle of cell; the oblique line medial; a crenulate submarginal line. Underside with the cell-spots black; the outer area suffused with purple.

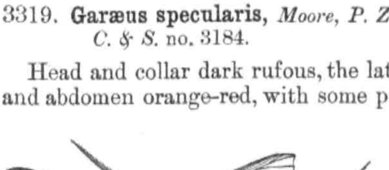

Fig. 126.—*Garæus specularis*, ♂. ¾.

One specimen is dark vinous red, with the medial semihyaline lunules of both wings extensive.

Hab. Sikhim. *Exp.* 40 millim.

3320. **Garæus cruentatus,** *Butl. A. M. N. H.* (5) vi, p. 124; *id. Ill. Het.* vi, pl. 114, fig. 3; *C. & S.* no. 3183.
Pericallia sikkima, *Moore, Lep. Atk.* p. 228; *C. & S.* no. 3201.

♂. Differs from *specularis* in being much darker red suffused with purplish brown. Fore wing with the antemedial line obscure; a speck at end of cell and no hyaline spots below it; the postmedial line of both wings double and nearer the margin; no crenulate line. Hind wing with a single hyaline spot below the cell. Underside of hind wing wholly suffused with purple.
Hab. Sikhim. *Exp.* 38 millim.

3321. **Garæus albipunctatus,** n. sp.

♂. Purplish fuscous brown. Fore wing with a chestnut fascia in the cell extending to the outer margin below apex; an indistinct slightly curved antemedial dark line; an oblique slightly sinuous postmedial line; a speck at end of cell and hyaline subapical spot. Hind wing with indistinct double waved medial line; a patch of hyaline and fuscous specks beyond and below end of cell. Underside striated and spotted with fuscous; the greater part of hind wing orange.
Hab. Dharmsála (*Hocking*); Murree (*Harford*). *Exp.* 34–36 millim. Type in B. M.

3322. **Garæus coloratus,** *Warr. P. Z. S.* 1893, p. 401, pl. 32, fig. 26.

Pale ochreous, much suffused, irrorated, and blotched with ferruginous. Fore wing with traces of a dark patch below middle of median nervure; a black spot at end of cell; a waved postmedial purplish-silver line on an ill-defined olive band and with an obscure pale maculate band beyond it. Hind wing similar; the area at anal angle purplish. Underside with the colouring brighter, especially the olive-green beyond the postmedial silvery line, which is obsolescent.
Hab. Sikhim, 12,000 feet. *Exp.*, ♂ 42, ♀ 52 millim.

SECT. II. Outer margin of hind wing slightly crenulate.

3323. **Garæus discolor,** *Warr. P. Z. S.* 1893, p. 400, pl. 32, fig. 19.

♂. Head, thorax, and abdomen grey and rufous; frons and antennæ dark rufous. Fore wing grey, with slight dark irroration and some pale reddish suffusion on costal and apical areas; traces of antemedial and medial lines angled below the costa; a black speck at end of cell; an oblique postmedial series of black specks, angled below the costa and arising from a white spot on the costa; a white striga from costa before apex. Hind wing grey, with dark irroration and some olive suffusion on inner area; an antemedial dark line; a postmedial series of black specks terminating in a black and white mark on inner margin. Underside with a dark brown triangular patch on costa of fore wing before apex; diffused

white bands at the lines and an indistinct waved submarginal white line to each wing.

Hab. Khásis; **Nágas.** *Exp.* 36 millim.

SECT. III. Outer margin of neither wing crenulate.

3324. **Garæus apicatus,** *Moore, P. Z. S.* 1867, p. 617; *C. & S.* no. 3242.

♂. Differs from *albipunctatus* in being olive-brown suffused with purple. Fore wing with the postmedial line double, pale, and not sinuous; some pale patches on costa towards apex and no subapical spot. Hind wing with a vinous tinge and striated with fuscous; the patch beyond and below cell marbled with black and pale brown. Underside pale, the inner area of hind wing fulvous.

♀. Paler, with the marbled patch on hind wing very prominent. One specimen is dark purplish grey, with a subapical patch on the angle of the postmedial line of fore wing and the medial patch of hind wing sap-green.

Hab. Murree; Dharmsála; Sikhim. *Exp.*, ♂ 34, ♀ 44 millim.

3325. **Garæus muscorarius,** n. sp.

♂. Differs from *apicatus* in being dark purplish brown; the oblique line with purple outer edge and purplish suffusion beyond it; fore wing with indistinct dentate antemedial line; hind wing with a greenish band from lower angle of cell to inner margin. Underside with much more yellow on hind wing.

♀. Olive-chestnut; fore wing with the oblique line sinuous.

Hab. Sikhim. *Exp.*, ♂ 44, ♀ 48 millim. Type in B. M.

3326. **Garæus argillaceus,** *Butl. Ill. Het.* vii, p. 100, pl. 135, fig. 15.

Differs from *apicatus* in being chestnut and more irrorated with fuscous; a dark speck at end of cell; a purple and chestnut line from apex of fore wing to middle of inner margin of hind wing. Underside paler.

The Shillong form is darker than the N.W. Himalayan.

Hab. Dalhousie; Dharmsála; Sikhim; Shillong. *Exp.*, ♂ 40, ♀ 50 millim.

3327. **Garæus signatus,** *Butl. P. Z. S.* 1886, p. 392, pl. 35, fig. 9; *C. & S.* no. 3678.

♂. Yellowish brown, striated with fuscous; wings with the outer area suffused with rufous. Fore wing with antemedial curved fuscous line; indistinct medial and postmedial lines angled below the costa, the latter with a hyaline spot in the angle. Hind wing with medial dark line. Underside yellower.

Hab. Kulu; Murree; Thundiáni; Kashmir. *Exp.* 30 millim.

3328. **Garæus absona,** *Swinh. P. Z. S.* 1889, p. 427.

♂. Differs from *signatus* in being dark chocolate, with the lines obscured; the hyaline spot of fore wing on an olive-green patch;

hind wing with a fiery red patch on costa near apex. Underside fiery red.

Hab. Dharmsála; Sikhim. *Exp.* 38 millim.

Genus HETEROMIZA.

Heteromiza, *Warr. P. Z. S.* 1893, p. 405.
Dissoplaga, *Warr. Nov. Zool.* p. 442 (1894).
Mimomiza, *Warr. Nov. Zool.* p. 444.

Type, *H. castanearia*, Moore.

Range. Himalayas; Khásis.

Differs from *Garæus* in the eyes being naked, the antennæ being usually simple in both sexes; fore wing with the costa evenly curved.

SECT. I. Fore wing with veins 7, 8, 9, 10 stalked; 11 anastomosing with 12.

A. (Heteromiza). *Hind tibiæ of male dilated, with a fold and tuft of hair.*

3329. **Heteromiza castanearia,** *Moore, P. Z. S.* 1867, p. 616, pl. 32, fig. 1; *C. & S.* no. 3245.
Heteromiza cervina, *Warr. P. Z. S.* 1893, p. 405.

♂. Pale red-brown, irrorated with fuscous. Fore wing with an oblique antemedial pale line angled below costa; a dark spot at

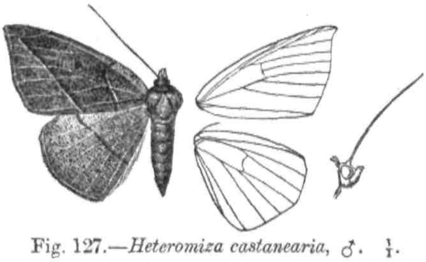

Fig. 127.—*Heteromiza castanearia*, ♂. 1/1.

angle of cell; a dark and pale line from the costa highly angled below apex, then straight to middle of inner margin of hind wing. Underside with cell-spot to hind wing and crenulate submarginal white line with black specks at the veins of both wings.

♀. Bright chestnut.

Hab. Sikhim. *Exp.*, ♂ 38, ♀ 48 millim.

B. (Dissoplaga). *Hind tibiæ of male not dilated.*

3330. **Heteromiza flava,** *Moore, Lep. Atk.* p. 233, pl. 8, fig. 5; *C. & S.* no. 3248.
Cimicodes sanguiflua, *Moore, Lep. Atk.* p. 233, pl. 8, fig. 4; *C. & S.* no. 3249.

Yellow; the head chocolate; wings with slight striæ. Fore wing

with a white speck at end of cell; an oblique dark postmedial striga from costa; an oblique line from costa just before apex to middle of inner margin of hind wing. Underside irrorated with rufous; each wing with dark cell-spot, the spot on fore wing having a white speck at centre; fore wing with an apical white patch.

The form *flava* is wholly yellow; *sanguiflua* is suffused with pink, leaving a yellow band on each side of the oblique line expanding into a large triangular patch on costa of fore wing.

Hab. Khásis. *Exp.* 38 millim.

SECT. II. Fore wing with vein 11 free from the cell; the costa more arched; hind tibiæ of male not dilated.

3331. **Heteromiza argentilinea,** *Moore, P. Z. S.* 1867, p. 617; *C. & S.* no. 3140.

Fulvous yellow; wings with slight dark striæ. Fore wing with dark speck at end of cell; a waved fuscous line from lower angle of cell to inner margin, with a pale patch beyond it above margin; a double somewhat irregular oblique pink line from apex of fore wing, widening to middle of inner margin of hind wing, and filled in with whitish.

Hab. Bhután. *Exp.* 44 millim.

SECT. III. (*Mimomiza*). Antennæ of male bipectinated; fore wing with veins 10 and 11 free from the cell; hind tibiæ of male not dilated.

3332. **Heteromiza cruentaria,** *Moore, P. Z. S.* 1867, p. 616; *Waterh. Aid,* pl. 151, fig. 6; *C. & S.* no. 3247.

♂. Bright yellow; wings irrorated with grey or reddish brown; a double oblique line from apex of fore wing to inner margin of hind wing before middle, the area beyond it suffused with rufous; a rufous blotch with hyaline spots on it at apex of fore wing on costa.

♀. With the apex of fore wing more produced; the rufous suffusion on outer area slight or wanting.

Hab. Dalhousie; Dharmsála; Khásis. *Exp.*, ♂ 46, ♀ 54 millim.

Genus DALIMA.

Dalima, *Moore, P. Z. S.* 1867, p. 614.
Panisala, *Moore, P. Z. S.* 1867, p. 620.
Metoxydia, *Butl. Ill. Het.* vi, p. 55 (1886).
Hololoma, *Warr. P. Z. S.* 1893, p. 395.
Leptostichia, *Warr. P. Z. S.* 1893, p. 397.
Calladelphia, *Warr. Nov. Zool.* p. 442 (1894).

Type, *D. apicata*, Moore.

Range. N.W. Himalayas; Sikhim; Khásis; Nágas.

Palpi short and hairy. Fore wing of male with fovea; vein 3 from before angle of cell; 7, 8, 9, 10 stalked from before upper

angle; 11 free. Hind wing with vein 3 from before angle of cell. Hind tibiæ of male dilated, with a fold containing an expansile tuft of hair.

SECT. I. (*Panisala*). Antennæ of male bipectinated, with long branches; fore wing with the costa lobed just before apex, which is truncate; hind wing with the apex truncate; the outer margin indented between veins 6 and 7.

3333. **Dalima truncataria,** *Moore, P. Z. S.* 1867, p. 620; *C. & S.* no. 3159.

Panisala olivescens, *Warr. P. Z. S.* 1893, p. 395.

Grey, suffused with pale olive-brown and irrorated with dark brown. Fore wing with a slight white bloom; antemedial and

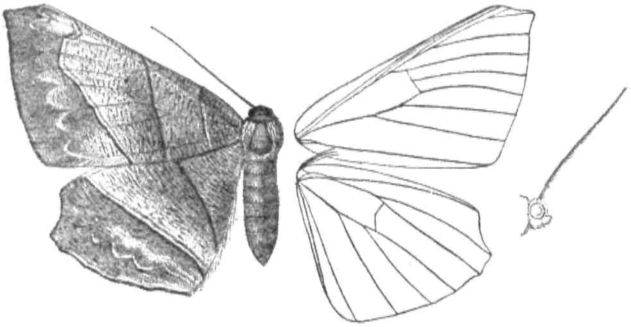

Fig. 128.—*Dalima truncataria*, ♀. $\frac{1}{1}$.

medial oblique brown hairs; a dark speck at end of cell; a postmedial curved double line filled in with white and bent outwards between veins 7 and 4; an indistinct lunulate submarginal whitish line. Hind wing with oblique ante- and postmedial brown lines, the latter double, filled in with white, and slightly curved; a dark speck at end of cell; a lunulate whitish submarginal line; cilia of both wings rufous. Underside brownish ochreous.

The form *olivescens* has olive-brown suffusion beyond the medial and postmedial lines of each wing, the latter single.

Hab. Sikhim; Khásis. *Exp.* 78 millim.

SECT. II. Apex of fore wing arched, of hind wing truncate.

A. (Dalima). *Antennæ of male serrate, with fasciculated cilia.*

3334. **Dalima apicata,** *Moore, P. Z. S.* 1867, p. 615, pl. 32, fig. 4; *C. & S.* no. 3130.

♂. Bright yellow, irrorated with fuscous; head black, except on vertex; end of abdomen fuscous. Fore wing with the base, apex,

and inner area suffused with rufous; some blackish patches on costa and one on middle of inner margin; a greyish fuscous spot at end of cell; an indistinct submarginal series of greyish fuscous lunules, most prominent towards costa. Hind wing with spots at end of cell and on middle of inner margin; submarginal spots near costa and inner margin. Underside with the markings more prominent and rufous.

Hab. Sikhim. *Exp.* 82 millim.

B. (Calladelphia). *Antennæ of male bipectinated, the branches short and stiff.*

3335. **Dalima schistacearia,** *Moore, P. Z. S.* 1867, p. 615; *C. & S.* no. 3132.

Dalima patnaria, *Feld. Reis. Nov.* pl. 122, fig. 12; *C. & S.* no. 3131.

Sericeous red-brown, slightly irrorated with fuscous. Fore wing with three black spots on costa; a postmedial pale line very highly angled below apex, then oblique to inner margin, where it ends in a black spot. Hind wing with medial pale line; cilia of both wings rufous. Underside orange-red, prominently striated with fuscous.

Typical *schistacearia* is more purplish, with a purplish-white patch on fore wing inside the angle of the line which is white; the female redder, without the black spot on inner margin of fore wing.

Hab. Sikhim; Khásis. *Exp.* 68 millim.

3336. **Dalima lucens,** *Warr. P. Z. S.* 1893, p. 396.

Pale ochreous, irrorated with fuscous; frons and extremity of abdomen chocolate. Fore wing with chocolate slightly curved antemedial line; broad oblique medial line; a postmedial line highly angled outwards between veins 4 and 7, then oblique to inner margin near medial line; a waved submarginal line. Hind wing with broad oblique antemedial line; black speck at end of cell; oblique postmedial line nearly joining the antemedial line at inner margin; a curved submarginal line. Underside suffused with ferruginous.

Hab. Sikhim. *Exp.* 72 millim.

C. *Antennæ of male bipectinated, with long decumbent branches.*

3337. **Dalima calamina,** *Butl. A. M. N. H.* (5) vi, p. 121; *id. Ill. Het.* vi, pl. 114, fig. 7; *C. & S.* no. 3214.

♂. Ochreous, irrorated with fuscous; head black. Fore wing with some fuscous patches on costa; an indistinct sinuous antemedial line; an oblique line from apex, curved outwards below vein 2, and reaching the inner margin beyond middle, where it has a fuscous patch outside it; some silvery submarginal lunules on

apical area met by a streak from apex ; a round spot below vein 4. Hind wing with a black speck at end of cell and traces of crenulate submarginal line. Underside of fore wing with oblique line from apex excurved to near outer angle ; hind wing with waved antemedial and crenulate submarginal lines.

Hab. Sikhim ; Khásis. *Exp.* 60 millim.

3338. **Dalima intricata,** *Warr. P. Z. S.* 1893, p. 396.

♂. Differs from *calamina* in the fore wing having a straight medial line ; the postmedial line well defined, angled below costa, and with black marks on the recurved portion above inner margin ; a series of white spots beyond the submarginal line and a marginal series. Hind wing with ante- and postmedial lines, the latter recurved below vein 6 ; the margin more produced at vein 7. Underside with the lines as on upperside, but prominent.

Hab. Bhután ; Khásis. *Exp.* 40 millim.

3339. **Dalima nubilata,** n. sp.

♂. Differs from *calamina* in being pale fuscous, largely irrorated and suffused with dark fuscous ; the markings similar ; hind wing with the outer margin much more produced at vein 7.

Hab. Nágas, 6000 feet (*Doherty*). *Exp.* 74 millim. Type in coll. Elwes.

SECT. III. (*Hololoma*). The apex of neither wing truncate.

A. *Antennæ of male with short branches ending in fasciculate cilia ; hind tibiæ dilated.*

3340. **Dalima patularia,** *Wlk. Cat.* xx, p. 247 ; *C. & S.* no. 3218.

Grey-brown, with a whitish bloom. Fore wing with oblique antemedial and medial rufous lines, the latter black at inner margin, where it is joined by an indistinct grey and brown line from costa near apex ; traces of a submarginal line. Hind wing with oblique rufous slightly curved medial line ; curved rufous and grey postmedial line ; a series of grey and fuscous submarginal specks ; both wings with the cilia rufous. Underside orange.

Hab. N.W. Himalayas ; Sikhim ; Khásis. *Exp.* 64 millim.

B. *Antennæ of male serrate and fasciculate.*

3341. **Dalima latitans,** *Warr. P. Z. S.* 1893, p. 397.

♂. Differs from *schistacearia* form *patnaria* in the apex of fore wing being less produced ; the postmedial line curved, not angled, below costa ; hind wing with antemedial blackish band and curved rufous postmedial line.

Hab. Sikhim. *Exp.* 60 millim.

C. *Antennæ of male with two pairs of serrations from each joint and long fasciculate cilia arising from them.*

3342. **Dalima vulpinaria**, *Moore, Lep. Atk.* p. 232; *C. & S.* no. 3213.

Ferruginous brown, irrorated with fuscous and suffused with purplish. Fore wing with indistinct waved antemedial line with bluish white on it; a dark cell-speck at end of cell; medial and postmedial oblique rufous streaks from costa; an oblique rufous line from apex to middle of inner margin, near which it has silvery blue inside it; an indistinct dark submarginal line. Hind wing with ante- and postmedial rufous lines, the latter with silvery blue inside it; traces of a submarginal line; cilia of both wings rufous. Underside orange-red, irrorated with black.

Hab. Sikhim. *Exp.* 56 millim.

Genus AMBLYCHIA.

Amblychia, *Guen. Phal.* i, p. 214 (1857).
Gyadroma, *Swinh. Trans. Ent. Soc.* 1894, p. 220.

Type, *A. angeronaria*, Guen.

Range. Sikhim; Assam; Ceylon; Andamans; Sumatra; Java; Borneo.

Palpi upturned, reaching vertex of head and fringed with long hair in front; antennæ of male usually bipectinated with long branches to three-fourths length; hind tibiæ usually dilated and with a tuft of hair from base on inner side. Fore wing of male

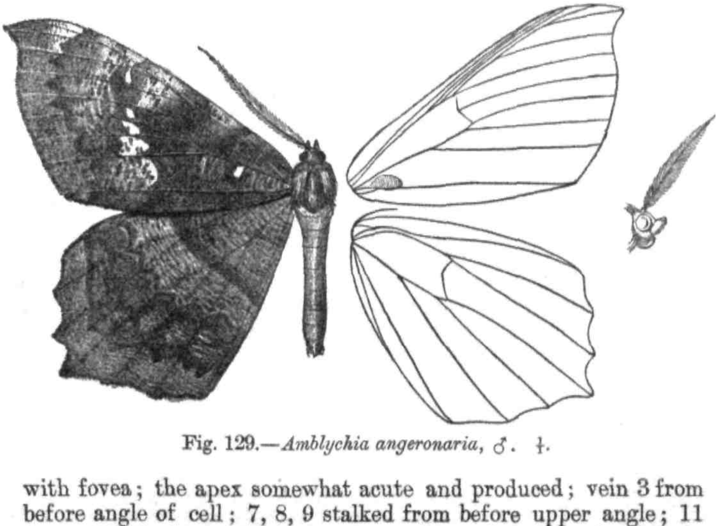

Fig. 129.—*Amblychia angeronaria*, ♂. ½.

with fovea; the apex somewhat acute and produced; vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 11 free. Hind wing with the outer margin produced at vein 4; vein 3 from before angle of cell.

SECT. I. (*Amblychia*). Fore wing with vein 10 present and free; hind wing with the outer margin crenulate.

3343. **Amblychia angeronaria**, *Guen. Phal.* i, p. 215, pl. 4, fig. 9; *C. & S.* no. 3401.
Amblychia torrida, *Moore, P. Z. S.* 1877, p. 621; *C. & S.* no. 3402.

♂. Head, thorax, and abdomen rufous; wings fulvous, almost wholly suffused with rufous and striated with fuscous. Fore wing with waved antemedial dark line, with whitish lunules on its inner edge; an indistinct medial line; an oblique postmedial series of whitish lunules, largest at middle; a nearly straight postmedial dark band joining an indistinct lunulate submarginal line near outer angle; a whitish patch on costa towards apex. Hind wing with indistinct nearly straight medial and lunulate postmedial and submarginal lines.

♀. Fulvous, without rufous suffusion; the white apical patch large.

The form *torrida* is reddish fuscous in the male, rufous in the female; the typical specimens from the Andamans with large white postmedial patches on fore wing near the costa.

Hab. Sikhim; Assam; Ceylon; Andamans; Sumatra; Java. *Exp.* 80–110 millim.

SECT. II. Fore wing with vein 10 absent.

A. (Gyadroma). *Fore wing with the outer margin not angled; antennæ of male with long cilia; hind wing with long hair on underside below lower angle of cell, along vein* 1 b, *and on inner margin; fore coxæ, hind femora, and tibiæ with dense fringe of hair.*

3344. **Amblychia testacearia**, *Moore, P. Z. S.* 1867, p. 623; *C. & S.* no. 3173.

♂. Red-brown, irrorated and suffused with fuscous. Fore wing with yellower patches on costa beyond middle and at middle of outer area; both wings with black speck at end of cell, postmedial straight line and indistinct dentate submarginal line.

Hab. Sikhim; Khásis. *Exp.* 60 millim.

B. *Fore wing with the outer margin angled at vein 4; hind wing with the margin not crenulate and with thick fringe of hair at middle of inner margin; antennæ of male bipectinated; hind femora fringed with hair, but not the tibia.*

3345. **Amblychia tetragonata**, *Wlk. Cat.* xxvi, p. 1651.
Menophra deficiens, *Moore, Lep. Atk.* p. 237, pl. 8, fig. 23; *C. & S.* no. 3271.

Grey, irrorated with fuscous. Fore wing with traces of antemedial curved line; two medial lines which anastomose at middle; a postmedial series of black specks. Underside with black spot at end of cell and crenulate postmedial line.

Hab. Sikhim; Borneo. *Exp.* 52 millim.

Genus CHORODNA.

Chorodna, *Wlk. Cat.* xxi, p. 314 (1860).

Type, *C. erebusaria*, Wlk.

Range. Eastern Himalayas; Assam; Khásis; Borneo.

Palpi obliquely upturned and fringed with hair in front, the 3rd joint minute; antennæ of male bipectinated to three fourths length; hind tibiæ dilated and with a tuft of hair from base; abdomen hairy below in male. Fore wing with the costa arched towards apex; the outer margin oblique and with two more or less prominent excisions below apex; vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 free; 11 given off from 12. Hind wing with vein 3 from before angle of cell.

SECT. I. Hind wing with the outer margin produced to points at the veins, especially at veins 4 and 7.

3346. **Chorodna pallidularia,** *Moore, P. Z. S.* 1867, p. 613; *C. & S.* no. 3125.

♂. Brownish ochreous, slightly irrorated with fuscous; head black. Fore wing with indistinct series of antemedial specks; a highly curved waved medial line; a similar postmedial line; the outer area suffused with fuscous except at outer angle; a sinuous submarginal line obsolete towards costa; a speck at end of cell. Hind wing with straight antemedial line; a black spot at upper angle of cell; a postmedial series of specks; a submarginal line angled outwards at vein 6. Underside ochreous, with two waved medial lines which cross each other at costa of hind wing; outer area of fore wing rufous.

♀ much paler.

Hab. Sikhim; Bhután; Sibságar. *Exp.*, ♂ 90, ♀ 105 millim.

3347. **Chorodna vulpinaria,** *Moore, P. Z. S.* 1867, p. 614; *C. & S.* no. 3129.

♂. Differs from *pallidularia* in being olive-brown suffused with rufous and slightly striated with black. Fore wing with a black patch at and above upper angle of cell; the medial line not waved and joined by the postmedial line below cell; a pale outer edge to the postmedial line of both wings. Underside almost uniform.

Hab. Sikhim. *Exp*. 92 millim.

3348. **Chorodna adumbrata,** *Moore, Lep. Atk.* p. 235; *C. & S.* no. 3120.

♂. Differs from *vulpinaria* in being more fuscous and less rufous; hind wing with the outer margin more produced at the veins; the line almost marginal and less angled.

Hab. Sikhim. *Exp*. 64 millim.

3349. **Chorodna metaphæaria,** *Wlk. Cat.* xxvi, p. 1482; *Butl. Ill. Het.* vi, pl. 115, fig. 8; *C. & S.* no. 3123.
Erebomorpha semiclusaria, *Wlk. Cat.* xxvi, p. 1552.
Erebomorpha prætextata, *Feld. Reis. Nov.* pl. 126, fig. 16; *C. & S.* no. 3188.

♂. Pale fuscous, slightly irrorated with black; the thorax and end of abdomen ochreous. Fore wing suffused with ochreous; an indistinct antemedial waved line angled to lower end of cell; a ring-spot at upper angle; an oblique curved double postmedial line obsolete towards costa and with a rufous patch beyond it on inner

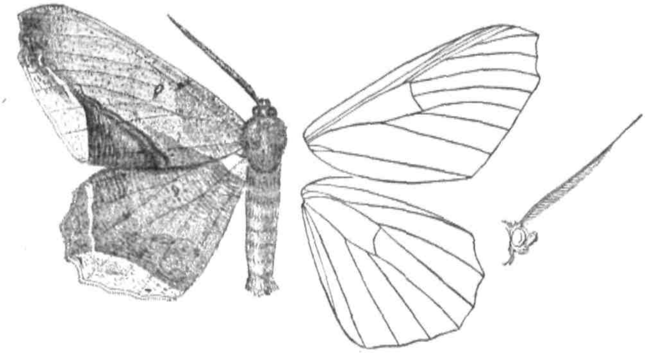

Fig. 130.—*Chorodna metaphæaria*, ♂. $\frac{1}{1}$.

area; a submarginal line incurved below middle and with a large white patch beyond it. Hind wing with ring-spot at upper angle of cell; a postmedial series of specks; a submarginal white line angled outwards to near margin at middle, below which the outer area is white.

♀ much paler.

Hab. Sikhim. *Exp.* 82 millim.

SECT. II. Hind wing with the outer margin not produced at the veins, but angled at vein 7.

3350. **Chorodna testaceata,** *Moore, P. Z. S.* 1867, p. 615; *C. & S.* no. 3117.

♂. Yellowish red-brown, slightly irrorated with black. Fore wing with traces of antemedial, medial, and postmedial bands, angled below costa, the last joining the medial band at inner margin, and with a diffused blackish patch beyond it at middle. Hind wing with antemedial straight line and traces of a postmedial band.

Hab. Sikhim; Khásis. *Exp.* 90 millim.

SECT. III. Hind wing with the outer margin evenly curved.

3351. **Chorodna erebusaria**, *Wlk. Cat.* xxi, p. 314; *Butl. Ill. Het.* vi, pl. 115, fig. 9; *C. & S.* no. 3122.

♂. Whitish, suffused with pale brown and irrorated with black. Fore wing with a line from middle of costa angled at each angle of cell, then oblique to near base of inner margin; a large chocolate reniform spot beyond discocellulars extending to the costa; a postmedial double line highly excurved below costa and incurved below middle; the area between the medial and postmedial lines whiter; a pale patch on outer area below middle. Hind wing whiter, with a blackish spot at end of cell; a postmedial series of specks; two black striæ above middle of outer margin and a pale patch below middle.

Hab. Sikhim; Shillong. *Exp.* 88 millim.

Genus BISTON.

Biston, *Leach, Edinb. Encycl.* ix, p. 134 (1815).
Eubyja, *Hübn. Verz.* p. 318 (? 1818).
Lycia, *Hübn. Verz.* p. 319.
Amphidasis, *Treitschke, Eur. Schmett.* vi, i, p. 229 (1827).
Buzura, *Wlk. Cat.* xxvi, p. 1531 (1862).
Cusiala, *Moore, Lep. Ceyl.* iii, p. 407 (1887).
Amraica, *Moore, Lep. Atk.* p. 245 (1888).
Eubyjodonta, *Warr. P. Z. S.* 1893, p. 416.
Blepharoctenia, *Warr. Nov. Zool.* p. 428 (1894).

Type, *B. stratiaria*, Hübn., from Europe.

Range. Nearctic and Palæarctic regions; throughout India, Ceylon, and Burma; Java.

Palpi short and hairy; thorax stout and clothed with thick pile; legs hairy; hind tibiæ not dilated and with the spurs slight. Fore wing with the apex rounded; the outer margin oblique; vein 3 from near angle of cell; 7, 8, 9 stalked from near upper angle; 10 and 11 stalked, 10 often connected with 8 and 9. Hind wing with the cell long; vein 3 from the angle.

SECT. I. Proboscis weak; frons densely hairy; antennæ of male bipectinated to near apex with stiff branches; hind tibiæ with the 1st pair of spurs near the extremity.

A. (Biston). *Both wings with the outer margins non-crenulate.*

3352. **Biston regalis**, *Moore, Lep. Atk.* p. 234; *C. & S.* no. 3253.
Amphidasys porphyria, *Butl. Ill. Het.* vii, p. 102, pl. 136, fig. 1.

Head and thorax irrorated with brown and black; palpi black; abdomen brown, irrorated with black and white, and with white spots on vertex. Fore wing brown, irrorated with black; the basal, medial, and apical areas whitish; an antemedial black line slightly angled in cell and bent inwards below vein 2; a postmedial line excurved from veins 7 to 4, incurved from veins 4 to 2, and angled

inwards on vein 1: an indistinct whitish submarginal sinuous line, Hind wing whitish, with subbasal line and postmedial sinuous line angled outwards on vein 4.

The form *porphyria* has the thorax brown; the wings much browner, with hardly a trace of white areas and with indistinct sinuous medial line.

Hab. Japan; N.W. Himalayas; Khásis. *Exp.*, ♂ 66–74, ♀ 108 millim.

3353. **Biston cognataria,** *Guen. Phal.* i, p. 208.

Differs from *regalis* in being grey thickly irrorated with fuscous, the vertex of head and collar whitish; fore wing with the antemedial line more angled on median nervure; the postmedial line prominently angled between veins 4 and 6; the medial sinuous line of both wings more prominent.

Hab. N. America; N.W. Himalayas. *Exp.*, ♂ 36, ♀ 62 millim.

B. (Eubyjodonta). *Both wings with the outer margin crenulate and more or less produced at vein* 4.

3354. **Biston sinuata,** n. sp.

♂. Pale brown, irrorated with fuscous; collar fringed with black; abdomen ringed with black. Fore wing with an obliquely curved antemedial black line with a brown band inside it; both wings with indistinct medial line; a postmedial black line with two brown lines beyond it, excurved between veins 4 and 7 of fore wing and angled at vein 6 of hind wing; outer area reddish brown, except at apex of fore wing.

Hab. Sikhim. *Exp.* 72 millim. Type in B.M.

3355. **Biston falcata,** *Warr. P. Z. S.* 1893, p. 416.

♂. White, irrorated with black spots; head fulvous; thorax barred with black; abdomen yellowish. Fore wing with sinuous antemedial fulvous band; both wings with similar submarginal band and some large and small fulvous spots on margin.

Hab. Sikhim. *Exp.* 62 millim.

SECT. II. Proboscis more developed; frons less hairy; hind tibiæ with the first pair of spurs medial; wings with the outer margins non-crenulate.

A. (Amraica). *Antennæ of male with very long uniseriate pectinations.*

3356. **Biston recursaria,** *Wlk. Cat.* xxi, p. 374; *C. & S.* no. 3339.
Boarmia ferrolavata, *Wlk. Cat.* xxvi, p. 1536; *C. & S.* no. 3322
Boarmia solivagaria, *Wlk. Cat.* xxxv, p. 1586.
Amphidasys superans, *Butl. Ill. Het.* ii. p. 48, pl. 35, fig. 3.
Amraica fortissima, *Moore, Lep. Atk.* p. 245; *C. & S.* no. 3352

♂. Grey, suffused and irrorated with fuscous and rufous; frons and thorax reddish brown; vertex of head and collar whitish. Fore wing with a rufous patch at base; an obliquely curved antemedial line angled inwards above vein 1; traces of a medial line and spot at end of cell; a postmedial crenulate line angled at vein 6; a rufous patch on apical part of costa; an indistinct pale crenulate submarginal line. Hind wing with traces of antemedial line; spot at end of cell; postmedial series of specks and submarginal pale line. Underside with a prominent black spot at end of cell of each wing.

♀ with hardly a trace of rufous.

Hab. Japan; Sikhim; Khásis; Bassein, Burma; Java. *Exp.*, ♂ 70–80, ♀ 50–90 millim.

B. (Buzura). *Antennæ of male bipectinate with short stiff branches.*

3357. **Biston suppressaria,** *Guen. Phal.* i, p. 210.
Buzura multipunctaria, *Wlk. Cat.* xxvi, p. 1531; *C. & S.* no. 3254.
Buzura strigaria, *Moore, P. Z. S.* 1879, p. 416; *id. Lep. Ceyl.* iii, pl. 188, figs. 1, 1 *a*, *b*, *c* (larva); *C. & S.* no. 3255.

Grey, irrorated with black; the head ochreous; thorax and abdomen with yellow bars. Fore wing with waved yellow antemedial band; both wings with irregularly sinuous indistinct yellow medial line excurved beyond cell of fore wing; an ill-defined postmedial maculate band angled at vein 5 of both wings, with some yellow spots beyond it and often some black suffusion at middle of outer margin of fore wing; a marginal series of yellow spots.

Larva dark green, with dark somital bands and slight sublateral line; the spiracles white ringed with red and with red centres; tubercle on 1st somite and legs purple; larva of female paler green. Food-plant *Cassia auriculata.*

Hab. Japan; Kángra; Sikhim; Assam; Calcutta; Ceylon. *Exp.*, ♂ 60–70, ♀ 74–80 millim.

3358. **Biston varianaria,** *Swinh. P. Z. S.* 1889, p. 425; *C. & S.* no. 3255 A.
Buzura panterinaria, *Swinh. P. Z. S.* 1886, p. 454 (*nec Brem. & Grey*).

Differs from *suppressaria* in the ground-colour being ochreous, thickly covered with purplish-fuscous spots.

Hab. Mhow; Poona; N. Canara. *Exp.*, ♂ 52, ♀ 80 millim.

C. (Cusiala). *Antennæ of male with very short branches, with fasciculated cilia at their ends.*

3359. **Biston bengaliaria,** *Guen. Phal.* i, p. 210, pl. 4, fig. 2; *C. & S.* no. 3250.
Amphidasis contectaria, *Wlk. Cat.* xxvi, p. 1529; *C. & S.* no. 3252.

White, suffused with ochreous and irrorated and striated with

fuscous. Fore wing with a curved antemedial black line slightly angled on median nervure, and with an ochreous band inside it; both wings with traces of a medial line; a postmedial black line highly angled at vein 5 of each wing, with slight streaks at the

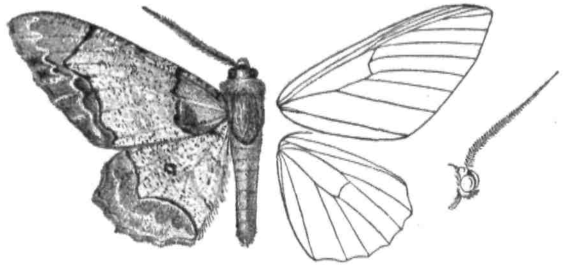

Fig. 131.—*Biston bengaliaria*, ♂. ½.

veins, and with a diffused ochreous band beyond it; traces of a waved submarginal line, with some waved black marks on each side of it near vein 4 of fore wing.

The form *contectaria* is much less suffused with ochreous.

Hab. Sikhim; Khásis; Shillong. *Exp.*, ♂ 64–74, ♀ 66–92 millim.

3360. **Biston raptaria**, *Wlk. Cat.* xxi, p. 373; *C. & S.* no. 3258.
Boarmia suiasasa, *Wlk. Cat.* xxi, p. 373; *C. & S.* no. 3259.
Boarmia disterminata, *Wlk. Cat.* xxi, p. 491; *Hmpsn. Ill. Het.* viii, pl. 149, fig. 13; *C. & S.* no. 3257.
Cusiala rufifasciata, *Hmpsn. Ill. Het.* ix, p. 143, pl. 169, fig. 7.

♂. White, irrorated with fuscous; antennæ fulvous. Fore wing with waved ante- and postmedial yellowish bands, the latter angled beyond cell; some black suffusion on costa. Hind wing with waved postmedial yellowish band excurved beyond cell; both wings with marginal series of black specks.

♀ with black lines instead of the yellowish bands.

The form *rufifasciata* has browner irroration and the bands rufous; *suiasasa* is whiter, with black instead of yellowish bands; *disterminata* has black suffusion between the bands of fore wing, and sometimes the hind wing black as far as the postmedial band.

Hab. Nilgiris; Ceylon. *Exp.* 38–54 millim.

3361. **Biston boarmioides**, *Moore, Lep. Atk.* p. 234; *C. & S.* no. 3256.
Tephrosia angulata, *Hmpsn. Ill. Het.* viii, p. 107, pl. 150, fig. 7.

Differs from typical *raptaria* in the postmedial band of hind wing being angled beyond the cell instead of curved.

Hab. Sikhim; Khásis; Ganjam; Nilgiris. *Exp.*, ♂ 46, ♀ 60 millim.

Genus ELPHOS.

Elphos, *Guen. Phal.* i. p. 285 (1857).

Type, *E. hymenaria*, Guen.

Range. Japan ; Himalayas ; Assam ; Sylhet ; Ceylon ; Burma.

Palpi obliquely upturned and fringed with long hair in front ; antennæ of male bipectinated with long branches to three-fourths length ; hind tibiæ dilated ; wings very broad, the outer margin crenulate. Fore wing of male with fovea ; vein 3 from before end of cell ; 7, 8, 9 stalked from before upper angle ; 11 free. Hind wing with vein 3 from before angle of cell.

SECT. I. Fore wing with vein 10 given off from 7, 8, 9.

3362. **Elphos hymenaria**, *Guen. Phal.* i, p. 285, pl. 16, fig. 4 ; *Moore, Lep. Ceyl.* iii, pl. 193, fig. 1 ; *C. & S.* no. 3398.
Elphos procellosa, *Warr. Nov. Zool.* p. 431.

♂. Purplish fuscous, irrorated with black and with some fulvous markings, especially near the lines. Fore wing with waved antemedial line ; an obscure, nearly straight medial line, becoming antemedial on hind wing ; a diffused fulvous patch beyond cell ;

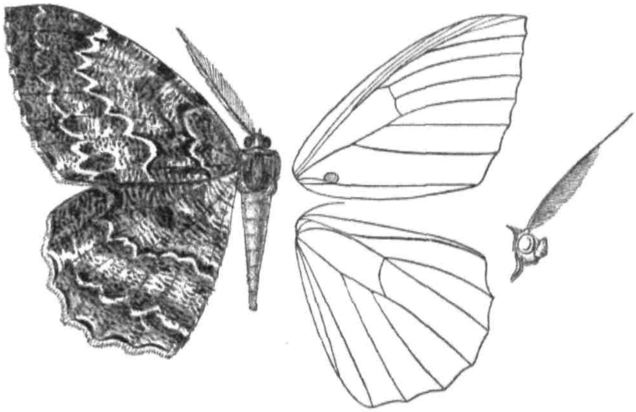

Fig. 132.—*Elphos hymenaria*, ♂. $\frac{1}{1}$.

both wings with highly waved postmedial and submarginal lines. Underside fuscous, with spot at end of cell ; a white patch beyond cell of fore wing ; a broad black marginal band, with white patches on the margin.

♀ with the ground-colour white except on apical area of fore wing, the purplish-fuscous and fulvous markings appearing as spots and blotches.

Hab. Himalayas ; Assam ; Ceylon ; Burma. *Exp.*, ♂ 84, ♀ 104 millim.

SECT. II. Fore wing with vein 10 from the cell.

3363. **Elphos pardicelata**, *Wlk. Cat.* xxvi, p. 1544; *Butl. Ill. Het.* vi, pl. 116, fig. 7; *C. & S.* no. 3399.
Elphos megaspilata, *Warr. Nov. Zool.* p. 430.

♂. Differs from *hymenaria* in being paler and browner; abdomen yellow below; underside white, with black spots at end of cell and submarginal black patches to each wing.

The eastern race *megaspilata* is large and coloured like *hymenaria* on upperside; underside with a complete submarginal band.

♀ with more brown and less white than in *hymenaria*.

Hab. N.W. Himalayas; Sikhim; Sylhet; Khásis. *Exp.*, ♂ 84–110, ♀ 110 millim.

Genus XANDRAMES.

Xandrames, *Moore, P. Z. S.* 1867, p. 634.

Type, *X. latiferaria*, Wlk.

Range. Japan; China; Himalayas; Khásis.

Differs from *Elphos* in the palpi being shorter; antennæ bipectinated to near apex in both sexes, the branches longer in male than in female; hind tibiæ not dilated; wings with the margins non-crenulate; fore wing with vein 10 stalked with 7, 8, 9.

3364. **Xandrames latiferaria**, *Wlk. Cat.* xxi, p. 445.
Xandrames dholaria, *Moore, P. Z. S.* 1867, p. 634; *C. & S.* no. 3287.
Xandrames sericea, *Butl. Trans. Ent. Soc.* 1881, p. 409.
Xandrames curvistriga, *Warr. Nov. Zool.* p. 431.

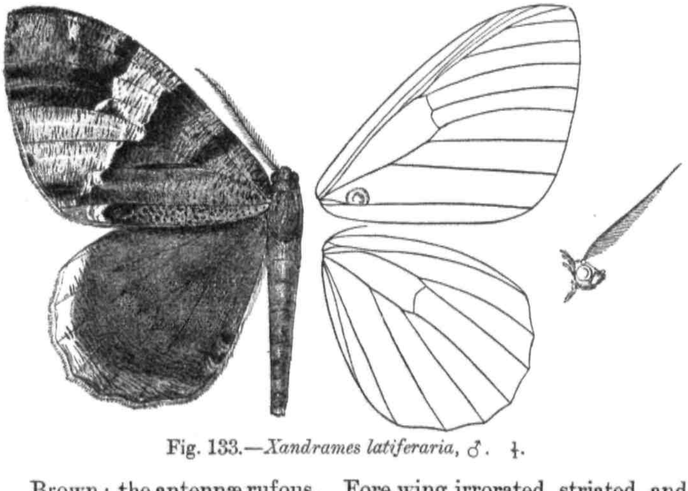

Fig. 133.—*Xandrames latiferaria*, ♂. ¾.

Brown; the antennæ rufous. Fore wing irrorated, striated, and suffused with black; traces of a curved antemedial black band; a

dark lunule at end of cell, a broad diffused white band with dark striæ on it and blackish outline from costa beyond middle to outer angle, joined at vein 4 by a narrow white band from costa before apex. Hind wing fuscous brown; the outer area striated with black and with white patch at apex.

The Khási form *curvistriga* is small and rufous, with a prominent pale submarginal line to the hind wing.

Hab. Japan; China; N.W. Himalayas; Sikhim; Khásis. *Exp.* 82–92 millim.; *curvistriga* 65 millim.

3365. **Xandrames albofasciata,** *Moore, P. Z. S.* 1867, p. 635, pl. 32, fig. 5; *C. & S.* no. 3286.

Differs from *latiferaria* in the fore wing being much more prominently striated with black; the white band well defined, narrowing towards outer angle and with the area beyond it olive-yellow below vein 4; abdomen and hind wing black, the latter with yellow marginal band.

Hab. Sikhim. *Exp.* 98 millim.

Genus **GNOPHUS.**

Gnophos, *Treitschke, Eur. Schmett.* vi, i, p. 160 (1827).
Scotopterix, *Hübn. Verz.* p. 313 (? 1818) (non descr.).
Catascia, *Hübn. Verz.* p. 313.

Type, *G. furvatus*, Schiff.

Range. Palæarctic region; Japan; China; Himalayas; Punjab; Assam.

Palpi slight, porrect, and fringed with hair below; frons with a rounded projection; hind tibiæ usually dilated with a fold containing a ridge of hair; wings with the outer margins crenulate. Fore wing broad, with vein 3 from before or near angle of cell; 7, 8, 9 stalked from near upper angle. Hind wing with vein 3 from before or near angle of cell.

Sect. I. Male with the antennæ thickened by appressed serrations.

A. *Male without tufts on abdomen and underside of hind wing; fore wing with veins* 10 *and* 11 *free.*

3366. **Gnophus muscosarius,** *Wlk. Cat.* xxxv, p. 1596; *C. & S.* no. 3411.
Scotosia vitreata, *Moore, P. Z. S.* 1867, p. 656; *C. & S.* no. 3420.

Olive-green, variegated with brown and fuscous, irrorated with fuscous and a few white scales. Fore wing with waved antemedial line; crenulate medial and postmedial lines, the latter incurved at vein 4; an indistinct irregular submarginal line; a marginal series of specks. Hind wing browner, with crenulate medial line and traces of a submarginal line. Underside brownish white, with speck at end of cell and crenulate postmedial line.

The form *vitreata* is more uniform glossy sap-green; the underside silvery grey.

Hab. N.W. Himalayas; Sikhim. *Exp.* 55 millim.

B. *Male with very large tuft on 2nd segment of abdomen; underside of hind wing with very large tuft below end of cell, the inner margin fringed with long hair; fore wing with veins* 10 *and* 11 *stalked.*

3367. **Gnophus æreus,** *Butl. A. M. N. H.* (5) vi, p. 128; *id. Ill. Het.* vi, pl. 116, fig. 9; *C. & S.* no. 3404.

♂. Differs from *muscosarius* in being much irrorated with black evenly over the whole upper surface. Underside with a fuscous tinge and fuscous suffusion beyond the postmedial line.

♀ paler green.

Hab. Sikhim. *Exp.*, ♂ 58, ♀ 64 millim.

SECT. II. Male with the antennæ ciliated.

A. *Fore wing with veins* 10 *and* 11 *stalked,* 11 *anastomosing with* 12.

3368. **Gnophus accipitrarius,** *Guen. Phal.* i, p. 300; *C. & S.* no. 3403.
Gnophos dispunctata, *Wlk. Cat.* xxi, p. 469; *C. & S.* no. 3406.

Grey, with a greenish or brownish tinge and striated and irrorated with fuscous. Fore wing with indistinct obliquely curved antemedial line; both wings with medial line broken up into spots and becoming antemedial on hind wing; a crenulate postmedial line incurved below vein 2 of fore wing; a waved grey submarginal line and marginal series of specks. Underside silvery white, with fuscous marks on discocellulars, more or less complete postmedial band; a marginal fuscous band, with white patch at middle of fore wing and white patches on hind wing.

Many specimens have much white suffusion on fore wing.

Hab. N.W. Himalayas; Shillong; Sibságar, Assam. *Exp.* 70–82 millim.

3369. **Gnophus albistellarius,** *Warr. P. Z. S.* 1893, p. 432.

♂. Fuscous, irrorated with blue-grey and ferruginous; both wings with black-ringed white speck at end of cell; indistinct waved antemedial and crenulate medial and postmedial lines. Underside nearly uniform fuscous grey.

Hab. Bhután; Khásis. *Exp.* 22 millim.

B. *Fore wing with veins* 10 *and* 11 *anastomosing with* 8, 9 *to form an areole; both wings with vein* 3 *from before angle of cell; hind tibiæ not dilated.*

3370. **Gnophus cinereus,** *Butl. Ill. Het.* vii, p. 108, pl. 136, fig. 13.

Fuscous grey. Fore wing with waved ante- and postmedial lines formed of black and yellow scales; the cell-spot black and yellow; some diffused black and yellow submarginal marks forming an obscure band. Hind wing with black and yellow cell-spot and waved postmedial and submarginal black and yellow lines.

Hab. Dharmsála. *Exp.* 20 millim.

SECT. III. (*Catascia*). Males with the antennæ bipectinated. Fore wing with veins 10 and 11 stalked, 11 anastomosing with 12.

3371. **Gnophus eolarius**, *Guen. Phal.* i, p. 294; *C. & S.* no. 3407.
Gnophos obtectaria, *Wlk. Cat.* xxxv, p. 1597; *Butl. Ill. Het.* vi, pl. 116, fig. 8; *C. & S.* no. 3412.
Scotopteryx paganata, *Feld. Reis. Nov.* pl. 125, fig. 9; *C. & S.* no. 3414.
Hypochroma tenebrosaria, *Moore, P. Z. S.* 1867, p. 633; *C. & S.* no. 3416.
Gnophos pærlita, *Butl. P. Z. S.* 1886, p. 389; *C. & S.* no. 3413.

♂. Fuscous or brownish grey, thickly irrorated and suffused with fuscous. Fore wing with indistinct ante- and postmedial crenulate dark lines and submarginal waved grey line; a speck at

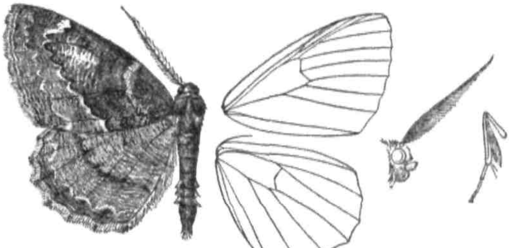

Fig. 134.—*Gnophus eolarius*, ♂. ½.

end of cell. Hind wing with indistinct medial, crenulate postmedial, and indistinct pale waved submarginal lines. Underside whitish, with specks at end of cell and postmedial series of specks; a broad marginal fuscous band.

One specimen has the basal area of hind wing rufous, and a large rufous patch on outer area of fore wing.

♀ paler grey.

Hab. Throughout the Himalayas and Punjab; Khásis. *Exp.* 48–60 millim.

3372. **Gnophus licheneus**, *Oberth. Et. Ent.* xi, p. 33, pl. v, fig. 33.

Differs from *muscosarius* in the ground-colour being grey, with the olive-green confined to the edges of the waved lines; the irroration very prominent.

Hab. Tibet; Sikhim. *Exp.* 50 millim.

Genus BYLAZORA.

Bylazora, *Wlk. Cat.* xxvi, p. 1549 (1862).

Type, *B pilicostata*, Wlk.

Range. Nilgiris; Ceylon; ? Australia.

Palpi porrect and hairy; a large frontal tuft; hind legs with a

tuft of long hair from femoro-tibial joint; wings with the outer margin crenulate. Fore wing short and broad; the costa arched at base; male with a fovea; vein 3 from near angle of cell; 7, 8, 9 stalked from near upper angle; 10 and 11 stalked and anastomosing with 12. Hind wing with vein 3 from near angle of cell.

SECT. I. Fore wing with the basal half of costa very hairy; vein 11 not becoming coincident with 12; antennæ of male bipectinated to three-fourths length.

3373. **Bylazora pilicostata**, *Wlk. Cat.* xxv, p. 1355; *Hmpsn. Ill. Het.* viii, pl. 149, figs. 2, 3, 8, 9; *C. & S.* no. 3364.
Bylazora licheniferata, *Wlk. Cat.* xxvi, p. 1550; *C. & S.* no. 3363.

♂. Olive-green, irrorated with fuscous. Fore wing with dark subbasal mark; two indistinct antemedial, one medial, and one postmedial indistinct waved lines, each with dark specks on the veins; a waved submarginal pale line and marginal series of specks; some rufous along median nervure and the veins beyond it and on inner margin. Hind wing pale fuscous, with speck at end of cell: an indistinct postmedial crenulate line; outer area dark, with indistinct pale band and waved line outside it. Underside fuscous, with the margins pale.

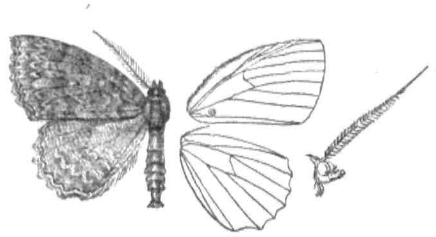

Fig. 135.—*Bylazora pilicostata*, ♂. 1/1.

Some specimens have dark marks on the antemedial, postmedial, and submarginal lines of fore wing.

♀. The ground-colour greyish-white, sometimes with dark marks on the lines of fore wing or with prominent ante- and postmedial bands.

Hab. Nilgiri plateau. *Exp.* 42 millim.

SECT. II. Fore wing with the costa not hairy; vein 11 becoming coincident with 12; antennæ of male ciliated.

3374. **Bylazora infumata**, *Feld. Reis. Nov.* pl. 126, fig. 13.
Bylazora ceylonica, *Moore, Lep. Ceyl.* iii, p. 417, pl. 193, figs. 4, 4 *a*; *C. & S.* no. 3362.

Differs from the female of *pilicostata* in being much irrorated and suffused with purplish fuscous. Fore wing with the antemedial and medial lines less waved. Underside fuscous black, the outer area darkest; a medial line; the margins white, and white blotches at apex of each wing.

Hab. Ceylon; ? Australia. *Exp.* 38 millim.

Genus OPHTHALMODES.

Ophthalmodes, *Guen. Phal.* i, p. 283 (1857).

Type, *O. herbidaria*, Guen.

Range. Japan; China; Himalayas; Assam; Sylhet; Ganjam; Ceylon; Borneo.

Palpi reaching vertex of head and fringed with hair in front; antennæ bipectinated to near apex in both sexes, the branches longer in the male than the female; hind tibiæ not dilated. Fore wing with a fovea in male; the apex rounded; vein 3 from close to angle of cell; 7, 8, 9 stalked from near upper angle; 10 free; 11 given off from 12. Hind wing with vein 3 from close to angle of cell.

3375. **Ophthalmodes herbidaria,** *Guen. Phal.* i, p. 283; *Moore, Lep. Ceyl.* iii, pl. 191, fig. 4; *C. & S.* no. 3367.
Ophthalmodes diurnaria, *Guen. Phal.* i, fig. 284; *C. & S.* no. 3366.
Boarmia pertusaria, *Feld. Reis. Nov.* pl. 125, fig. 17.
Ophthalmodes mundata, *Wlk. Char. undescr. Het.* p. 97; *C. & S.* no. 3369.
Ophthalmodes pulsaria, *Swinh. Trans. Ent. Soc.* 1891, p. 489.
Ophthalmodes lectularia, *Swinh. Trans. Ent. Soc.* 1891, p. 489, pl. 19, fig. 4.

Grass-green, grey-green, or yellowish green, irrorated with black; abdomen with paired black dorsal specks. Fore wing with waved antemedial and dentate medial, postmedial, and submarginal black lines, the medial excurved round a black annulus at end of cell, the postmedial bent inwards to near the medial line below vein 4.

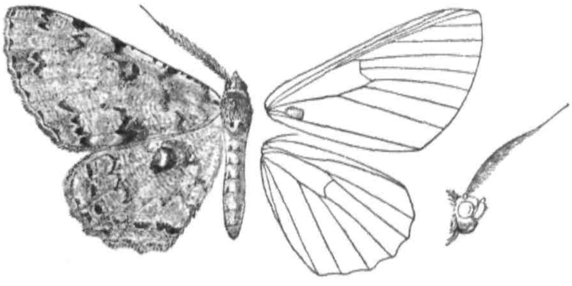

Fig. 136.—*Ophthalmodes herbidaria*, ♂. ½.

Hind wing with annulus at end of cell; dentate subbasal, medial, and submarginal lines; both wings with marginal series of black specks. Underside with large spot at end of cell of each wing, and more or less complete broad marginal fuscous band.

In *herbidaria* the colour is grey or grass-green; underside of male pale fuscous with the marginal band complete, in the female whitish with the margin also whitish. *Diurnaria* is yellowish

green, with the dentate black lines interrupted; the underside white, with the marginal band reduced to patches.

Hab. N.W. and E. Himalayas; Assam; Ceylon. *Exp.* 54–66 millim.

3376. **Ophthalmodes cordularia,** *Swinh. A. M. N. H.* (6) xii, p. 155.

Differs from *herbidaria* in the palpi being black; the colour bright grass-green; the disk of fore wing and basal area of hind wing white, irrorated with green; fore wing with the antemedial, medial, and postmedial lines obsolete except at costal and inner margins. Hind wing with black-brown antemedial band embracing the annulus and reduced to a line towards costa.

Hab. Sikhim; Khásis. *Exp.* 56 millim.

3377. **Ophthalmodes infusaria,** *Wlk. Cat.* xxi, p. 448; *Butl. Ill. Het.* vi, pl. 116, fig. 6; *C. & S.* no. 3368.

♂. Differs from *herbidaria* in being olive-green; the ante- and postmedial lines of both wings hardly darker than the ground-colour; the medial line of fore wing obsolete; the submarginal line waved and pale; no spots on margin; underside pale fuscous, with broad marginal band to fore wing and submarginal band to hind wing.

Hab. Sylhet. *Exp.* 76 millim.

3378. **Ophthalmodes caritaria,** *Wlk. Cat.* xxi, p. 489; *Hmpsn. Ill. Het.* ix, pl. 168, fig. 8; *C. & S.* no. 3365.

♀. Differs from *herbidaria* in the ground-colour being white; pale brown bands inside the antemedial line and beyond the postmedial and submarginal bands of each wing. Underside pale fuscous, with diffused marginal band.

The Ganjam specimen is pinkish.

Hab. Ganjam; Trincomali, Ceylon. *Exp.* 46 millim.

Genus **BOARMIA**.

Boarmia, *Treitschke, Eur. Schmett.* v, ii, p. 433 (1825).
Ascotis, *Hübn. Verz.* p. 313 (? 1818), non descr.
Ectropis, *Hübn. Verz.* p. 316.
Synopsia, *Hübn. Verz.* p. 317.
Cleora, *Curt. Brit. Ent.* pl. 88 (1825).
Alcis, *Curt. Brit. Ent.* pl. 113 (1829).
Hemerophila, *Steph. Ill. Brit. Ent., Haust.* iii, p. 189 (1829).
Calicha, *Moore, Lep. Atk.* p. 236 (1888).
Hirasa, *Moore, Lep. Atk.* p. 238.
Astacuda, *Moore, Lep. Atk.* p. 243.
Burichura, *Moore, Lep. Atk.* p. 245.
Chogada, *Moore, Lep. Ceyl.* iii, p. 415 (1887).
Serraca, *Moore, Lep. Ceyl.* iii, p. 416.
Narapa, *Moore, Lep. Ceyl.* iii, p. 410.
Catoria, *Moore, Lep. Ceyl.* iii, p. 414.
Racotis, *Moore, Lep. Ceyl.* iii, p. 418.
Pseudangerona, *Moore, Lep. Ceyl.* iii, p. 413.
Abaciscus, *Butl. Ill. Het.* vii, p. 102 (1889).

Pœcilalcis, *Warr. P. Z. S.* 1893, p. 427.
Myrioblephara, *Warr. P. Z. S.* 1893, p. 428.
Prorhinia, *Warr. P. Z. S.* 1893, p. 430.
Apophyga, *Warr. P. Z. S.* 1893, p. 418.
Psilalcis, *Warr. P. Z. S.* 1893, p. 430.
Paradarisa, *Warr. Nov. Zool.* p. 433 (1894).
Ephemerophila, *Warr. Nov. Zool.* p. 434.
Gasterocome, *Warr. Nov. Zool.* p. 435.
Paralcis, *Warr. Nov. Zool.* p. 435.
Ruttellerona, *Swinh. Trans. Ent. Soc.* 1894, p. 220.

Type, *B. cinctaria*, Schiff., from Europe.
Range. Universally distributed.
Palpi oblique, reaching beyond the frons and fringed with hair below. Fore wing with the cilia slightly crenulate; vein 3 from near angle of cell; 7, 8, 9 stalked from near upper angle; typically with 10 and 11 from cell. Hind wing with vein 3 from near angle of cell; the cilia crenulate.

GROUP I. Male with a fovea at base of fore wing.

SECT. I. Antennæ of male fasciculate.

A. *Hind tibiæ of male not dilated.*

a. (Ectropis). *Male with no tufts from hind coxæ and base of abdomen below.*

3379. **Boarmia diversicolor,** *Warr. P. Z. S.* 1888, p. 325; *C. & S.* no. 3729 A.

Vein 11 of fore wing anastomosing with 12. Grey, irrorated with fuscous; an antemedial sinuous fuscous line; a speck on discocellulars and waved postmedial and submarginal lines, the latter expanding into a black and white subapical mark. Hind wing with traces of postmedial and submarginal lines. Underside of fore wing browner.
Hab. Thundiáni, Punjab. *Exp.* 45 millim.

3380. **Boarmia conspurcata,** *Wlk. Cat.* xxxv, p. 1685; *C. & S.* no. 3817.

Very dark red-brown, with darker irroration. Fore wing with two indistinct oblique antemedial lines angled below the costa; a medial line excurved round a black spot at end of cell, then obliquely curved to inner margin; a postmedial line excurved between veins 6 and 3; traces of a waved submarginal line. Hind wing with traces of antemedial line; speck at end of cell; postmedial and submarginal lines.
Some specimens are much brighter rufous.
Hab. Sikhim. *Exp.* 42 millim.

3381. **Boarmia rubrifusa,** *Warr. P. Z. S.* 1893, p. 429.

Fore wing with vein 11 anastomosing with 12.
♂. Bright pink. Fore wing with traces of antemedial line;

an indistinct postmedial line bent outwards beyond end of cell; traces of a waved submarginal line. Hind wing with the medial area pale, bounded inwardly by the antemedial line and having the slightly waved postmedial line just inside its outer edge; an indistinct pale waved submarginal line.

Hab. Sikhim, 10,000 feet. *Exp.* 44 millim.

3382. **Boarmia cervina**, n. sp.

♂. Differs from *rubrifusa* in being pale, slightly suffused with rufous. Fore wing with chestnut suffusion inside the antemedial and beyond the postmedial lines, the latter angled beyond the cell, which has a speck on the discocellulars; the crenulate submarginal line dark and further from the margin. Hind wing with the antemedial line oblique; a speck at end of cell; the postmedial line slightly angled beyond cell.

Hab. Sikhim (*Möller*). *Exp.* 38 millim. Type in coll. Elwes.

3383. **Boarmia marmorata**, *Moore, P. Z. S.* 1867, p. 659, pl. 33, fig. 3; *C. & S.* no. 3832.

♂. Head, thorax, and abdomen ochreous; wings whitish. Fore wing with the base of costa olive-yellow; an antemedial band widest at inner margin, with a waved line on it and sending a fascia along median nervure and vein 4; a line on discocellulars and curved line beyond them from costa to the fascia; a crenulate postmedial line excurved below costa and with some olive-yellow suffusion beyond it; an indistinct dark dentate submarginal line; some olive-yellow on margin above middle. Hind wing with oblique antemedial line from cell to inner margin; a speck at end of cell; a slightly sinuous postmedial line, with some olive-yellow suffusion beyond it near inner margin; traces of a waved submarginal line and a marginal line.

Hab. Sikhim. *Exp.* 36 millim.

3384. **Boarmia enormis**, *Warr. P. Z. S.* 1893, p. 429.

♂. Golden brown, striated and suffused with fuscous. Fore wing with a large patch of fuscous in, below, and beyond cell; traces of a waved submarginal line. Hind wing paler, with slight fuscous irroration, thickest on outer area; traces of a speck at end of cell, and of medial and marginal lines.

Hab. Nágas. *Exp.* 28 millim.

3385. **Boarmia duplex**, *Moore, Lep. Atk.* p. 239; *C. & S.* no. 3295.

Differs from *ernormis* in being olive-green. Fore wing without the fuscous suffusion; a double antemedial black band; medial striga from costa; postmedial diffused and waved band; a waved submarginal band, sending a patch to the margin below apex.

Hab. Nepal; Sikhim. *Exp.* 36 millim.

3386. **Boarmia conifera**, *Moore, Lep. Atk.* p. 239; *C. & S.* no. 3293.

Differs from *ochrifasciata* in being grey, suffused with sap-green, which fades to yellow. Fore wing with a sinus in the postmedial line beyond cell instead of the angle; a dark rufous patch below the sinus; the submarginal line with dark marks on it, two below the apex extending to the margin. Hind wing with the postmedial line evenly curved; the submarginal line with dark marks on it.

Hab. Sikhim. *Exp.* 40 millim.

3387. **Boarmia idæoides**, *Moore, Lep. Atk.* p. 239; *C. & S.* no. 3298.
Myrioblephara albipunctata, *Warr. P. Z. S.* 1893, p. 428.
Ectropis simplaria, *Swinh. Trans. Ent. Soc.* 1894, p. 221.

Pale grey, irrorated with fuscous. Fore wing with traces of curved antemedial line. Hind wing with prominent antemedial line: both wings with cell-speck; a curved and waved postmedial black line, with some rufous on its outer edge; a crenulate submarginal line with pale outer edge; a marginal series of black specks.

Hab. Khásis; Nága and Karen Hills. *Exp.* 26 millim.

3388. **Boarmia ochrifasciata**, *Moore, Lep. Atk.* p. 240; *C. & S* no. 3296.
Ectropis planaria, *Swinh. Trans. Ent. Soc.* 1894, p. 221.

Fore wing with vein 11 given off from 10 or coincident with it. Yellowish-red brown, irrorated with fuscous. Fore wing with antemedial curved black line, with an indistinct yellowish and fuscous band inside it; a black spot at end of cell on traces of a medial line; a postmedial black line highly angled beyond cell and on vein 2, with yellowish and fuscous band beyond it; a pale waved submarginal line, with dark blotch beyond it at middle and often with dark marks in its sinuations; a marginal series of specks. Hind wing pale, more or less irrorated with fuscous; a speck at end of cell and postmedial line; the inner area yellowish brown, with traces of antemedial and submarginal lines. Underside pale, with more or less fuscous suffusion; both wings with cell-spots; hind wing with postmedial line.

Hab. Dalhousie; Dharmsála; Sikhim; Khásis. *Exp.* 28–30 millim.

3389. **Boarmia irrorata**, *Moore, Lep. Atk.* p. 240; *C. & S.* no. 3299.

♀. Grey, thickly irrorated with black and suffused with ochreous. Fore wing crossed by five diffused ochreous bands, the marginal band being reduced to patches; indistinct antemedial, postmedial, and submarginal slightly waved lines. Hind wing with three black lines, with diffused ochreous band beyond them.

Hab. Sikhim. *Exp.* 32 millim.

390. **Boarmia leucozona**, n. sp.

♂. Fuscous grey. Fore wing with antemedial, medial, and postmedial lines represented by series of specks; traces of a waved submarginal line, with an indistinct rufous band between it and the postmedial line. Hind wing with antemedial and medial lines, the area between them whitish and with a small black lunule at end of cell; an indistinct waved submarginal line; both wings with waved marginal line.

Hab. Nágas, 6000 feet (*Doherty*). *Exp.* 28 millim. Type in coll. Elwes.

3391. **Boarmia latifascia**, *Hmpsn. Ill. Het.* viii, p. 106, pl. 150, fig. 4.

♀. Fore wings with veins 10 and 11 stalked. Greyish white, irrorated with brown and fuscous; metathorax blackish; abdomen with paired black spots on terminal segments. Fore wing with an antemedial curved black line, the basal area being thickly irrorated with black and with some yellowish suffusion; a diffused black patch at end of cell; a postmedial line inwardly oblique from vein 6 to 3, with the area beyond it yellowish and fuscous, as far as the submarginal band of black lunules; some black marks on margin. Hind wing with the black irroration slight; a spot at end of cell and line from lower angle to inner margin. Underside with the cell-spots of both wings large.

Hab. Nilgiri plateau. *Exp.* 25 millim.

3392. **Boarmia crepuscularia**, *Hübn. Samml. Eur. Schmett., Geom.* fig. 158.

Boarmia consonaria, *Haw. Lep. Brit.* p. 277.
Boarmia defessaria, *Freyer, Beitr. Schmett.* vi, p. 46, pl. 510, fig. 1.
Tephrosia dentilineata, *Moore, P. Z. S.* 1867, p. 631; *C. & S.* no. 3359.

Fore wing with veins 10 and 11 stalked in male, coincident in female, from the cell in the Indian form, usually stalked with 7, 8, 9 in the European.

Grey-brown, irrorated with fuscous. Fore wing with double indistinct antemedial waved line, single medial and double postmedial line, each with dark specks at the veins and the last incurved below vein 3 and often with a dark patch beyond it at middle. Hind wing with waved antemedial and medial lines; both wings with a crenulate pale submarginal line and marginal series of specks. Underside nearly uniform grey-brown.

Hab. Europe; Japan; China; N.W. Himalayas; Sikhim; Khásis. *Exp.*, ♂ 38–45, ♀ 46–52 millim.

3393. **Boarmia bhurmitra**, *Wlk. Cat.* xxi, p. 381; *Moore, Lep. Ceyl.* iii, pl. 191, fig. 2; *C. & S.* no. 3311.

Boarmia diffusaria, *Wlk. Cat.* xxi, p. 382; *C. & S.* no. 3320.
Boarmia susceptaria, *Wlk. Cat.* xxxv, p. 1584.

Differs from *crepuscularia* in being much browner and less grey.

In the female the coincident veins 10 and 11 of fore wing are usually given off from 7, 8, 9.

Hab. Punjab; Sikhim; Nepal; Khandála; Nilgiris; Ceylon; Andamans; Java; Solomons. *Exp.*, ♂ 36–44, ♀ 48–58 millim.

3394. **Boarmia boarmiaria**, *Guen. Phal.* i, p. 282; *Moore, Lep. Ceyl.* iii, pl. 192, figs. 3 *a*, *b* (larva); *C. & S.* no. 3370.
Boarmia inconclusa, *Wlk. Cat.* xxi, p. 382.
Racotis obliterata, *Warr. Nov. Zool.* p. 432.
Racotis plenifasciata, *Warr. Nov. Zool.* p. 432.
Racotis sinuosa, *Warr. Nov. Zool.* p. 433.

Fore wing with veins 10 and 11 stalked.

Brownish ochreous, thickly irrorated with rufous brown. Fore wing with antemedial, medial, and postmedial series of specks, the last with brownish patch at middle; an indistinct pale waved submarginal line. Hind wing with indistinct antemedial line; crenulate postmedial line with brown patch at middle, and indistinct waved submarginal line; both wings with marginal series of specks. Underside pale ochreous, with prominent cell-spots; the outer area fuscous with the margin paler.

Larva. Bright green, with pure white lateral line and short streaks on 2nd and 11th somites; some reddish blotches above and below the line.

Hab. Formosa; Sikhim; Assam; Nágas; Ceylon. *Exp.* 54 millim.

3395. **Boarmia bisinuata**, n. sp.

Differs from *scripturaria* (p. 282) in the antemedial line of fore wing being evenly curved; the cell-spot black. Hind wing with the postmedial line strongly excurved beyond cell and incurved below cell.

Hab. Nepal; Sikhim. *Exp.* 34 millim. Type, ♂ in coll. Elwes, ♀ in B. M.

3396. **Boarmia cessaria**, *Wlk. Cat.* xxi, p. 383; *Moore, Lep. Ceyl.* iii, pl. 185, figs. 7, 7 *a*; *C. & S.* no. 3156.
Angerona præclararia, *Wlk. Cat.* xxvi, p. 1499.
Angerona pallicostaria, *Moore, P. Z. S.* 1867, p. 620; *C. & S.* no. 3158.

Fore wing with veins 10 and 11 stalked.

♂. Head and base of collar black; thorax and base of abdomen ochreous white; abdomen blackish, the anal tuft pale. Fore wing ochreous white, irrorated and striated with fuscous; traces of a medial line and spot at end of cell; a crenulate postmedial line, the area beyond it suffused with black except at costal area; traces of a submarginal waved line. Hind wing pale; the subbasal area thickly irrorated with black; an ill-defined antemedial line and spot at end of cell; a postmedial series of specks, with the area beyond them almost entirely suffused with black except

the marginal area from vein 4 to anal angle, on which there is a black spot below vein 2.

♀. Vinous fuscous; the thorax and costal area of fore wing greyish; hind wing with a short pale band above anal angle.

Hab. Sikhim; Khásis; Canara; Nilgiris; Ceylon. *Exp.*, ♂ 50, ♀ 54 millim.

b. (Psilalcis). *Male with tufts of long hair from coxæ of hind legs and edge of abdominal stigmata.*

3397. **Boarmia inceptaria**, *Wlk. Cat.* xxxv, p. 1590.
Narapa breta, *Swinh. P. Z. S.* 1889, p. 426.
Cleora indistincta, *Hmpsn. Ill. Het.* viii, p. 106, pl. 150, fig. 3.

Reddish brown, irrorated with fuscous. Fore wing with an indistinct waved antemedial line arising from a black mark on costa; a black spot at end of cell and ill-defined curved medial line; a postmedial line bent outwards at vein 6 and inwards to near the medial line in interno-median interspace; a pale waved submarginal line; both wings with crenulate black marginal line. Underside with fuscous marks on outer area and large patch below apex of fore wing, or the whole outer area fuscous, except apex of fore wing and anal area of hind wing. The tufts on coxæ and abdomen of male ochreous.

The form *indistincta* is small and greyish, with the male tufts pale fuscous.

Hab. Sikhim; Nilgiris; Ceylon; Burma; Flores. *Exp.* (*inceptaria*) 35, (*indistincta*) 24 millim.

B. (Prorhinia). *Hind tibiæ of male dilated with a fold containing a ridge of hair.*

a. *Abdomen of male not hairy below.*

3398. **Boarmia pallidaria**, *Moore, Lep. Atk.* p. 237; *C. & S.* no. 3273.
Pseudocoremia dendrellaria, *Swinh. A. M. N. H.* (6) xii, p. 156.

Fore wing with veins 10 and 11 stalked, 11 anastomosing with 12.

Red-brown, irrorated with fuscous; palpi black at sides. Fore wing with an oblique sinuous antemedial line; a similar medial line angled outwards below vein 2, and with traces of another line inside it below the cell; a postmedial curved series of specks bent inwards and becoming a line at vein 2, the area within its curve pale; a pale waved submarginal line. Hind wing with speck at end of cell and pale waved submarginal line; both wings with dark crenulate marginal line. Underside with the outer area dark.

Hab. Sikhim; Khásis. *Exp.* 40 millim.

3399. **Boarmia conspicuata**, *Moore, Lep. Atk.* p. 237; *C. & S.* no. 3270.

♀. Differs from *pallidaria* in being uniform red-brown, without

a pale patch on the disk of fore wing; the lines obsolescent; the antemedial and medial lines arising from dark patches on the costa, and the medial line not angled below vein 2; the postmedial line dilated into a black patch between vein 2 and inner margin; some dark suffusion inside the submarginal line of each wing.

Hab. Sikhim. *Exp.* 36 millim.

3400. **Boarmia pingasoides,** *Warr. P. Z. S.* 1893, p. 430.

♂. Palpi and frons blackish; vertex of head white; thorax and abdomen pale rufous and fuscous. Wings white, suffused with reddish fuscous except at base, the medial costal area, apex and outer angle of fore wing, and the apex and anal area of hind wing. Fore wing with indistinct double antemedial slightly curved lines; a large spot with dark outline at end of cell; a postmedial line angled inwards in interno-median interspace; an indistinct dentate submarginal line. Hind wing with indistinct sinuous antemedial line; speck at end of cell; medial line with two sinuations beyond cell; indistinct dentate submarginal line; both wings with waved marginal line. Underside with broad fuscous band on outer area, leaving white patches on margin of both wings and inner margin of hind wing.

Hab. Nágas. *Exp.* 28 millim.

b. (Paradarisa). *Male with the underside of abdomen clothed with long hair.*

3401. **Boarmia comparataria,** *Wlk. Cat.* xxxv, p. 1582; *C. & S.* no. 3405.

Fore wing with vein 11 given off from 12. Differs from *crepuscularia* (p. 260) in being red-brown, suffused with a green shade; collar, metathorax, and abdomen with brown lines across them. Fore wing with the double antemedial line more distinct; the medial reduced to a series of specks; the postmedial single, prominent, and not incurved below vein 4, but slightly angled in interno-median interspace, with short streaks beyond it on the veins and a diffused fuscous patch from its middle to outer margin; a pale waved submarginal line. Hind wing with the base dark; an antemedial line from cell to inner margin; a speck at end of cell; a postmedial line excurved beyond cell, double below vein 6, and with short streaks on the veins; an indistinct pale waved submarginal line; both wings with crenulate dark marginal line. Underside with more or less dark suffusion beyond the postmedial line.

Hab. N.W. Himalayas; Sikhim; Travancore. *Exp.* 46 millim.

Sect. II. Antennæ of male with two pairs of short slender branches from each joint; hind wing with a fold on inner margin containing fringes of long hair; hind tibiæ dilated with a fold containing a ridge of hair.

3402. **Boarmia hedelaria,** *Swinh. A. M. N. H.* (6) xii, p. 223.

♂. Pale brown. Fore wing with subbasal dark striga from

costa; an antemedial waved line with diffused line inside it; a speck at end of cell; a broken medial line angled at vein 6; a postmedial line incurved below vein 2, with dark specks on the veins and some suffusion beyond it; an indistinct pale waved submarginal line. Hind wing with sinuous antemedial line; speck at end of cell; crenulate postmedial line and pale waved submarginal line. Underside with diffused submarginal fuscous band.

Hab. Nilgiris. *Exp.* 44 millim.

SECT. III. (*Ascotis*). Antennæ of male minutely serrate and fasciculate: hind tibiæ slightly dilated.

3403. **Boarmia selenaria,** *Hübn. Samml. Eur. Schmett., Geom.* fig. 163.
Boarmia dianaria, *Hübn. Samml. Eur. Schmett., Geom.* fig. 483.
Boarmia reciprocaria, *Wlk. Cat.* xxi, p. 366.
Boarmia imparata, *Wlk. Cat.* xxi, p. 372; *C. & S.* no. 3344.
Boarmia promptaria, *Wlk. Cat.* xxi, p. 379; *C. & S.* no. 3333.
Opthalmodes cretacea, *Butl. A. M. N. H.* (5) iv, p. 373.

Ground-colour whitish, grey or pale fuscous, irrorated with dark brown; abdomen with paired dark dorsal specks. Fore wing with indistinct curved and slightly waved medial line, becoming straight and antemedial on hind wing; both wings with grey-centred lunule at end of cell; a prominent crenulate postmedial line; traces of a sinuous submarginal pale line; a marginal series of dark specks. Underside pale, with large black cell-spots; fore wing with a diffused subapical black patch.

Hab. Europe; Amur; Japan; China; N.W. Himalayas; Nepal; Khásis; Congo; S. Africa. *Exp.*, ♂ 45–50, ♀ 45–56 millim.

SECT. IV. Antennæ of male bipectinated to three-fourths length.

A. (Alcis). *Hind tibiæ dilated with a fold containing a ridge of hair.*

a. *Male with no fold containing fringes of long hair on inner margin of hind wing.*

3404. **Boarmia acaciaria,** *Boisd. Faun. Ent. Madag., Lép.* 116, pl. 16, fig. 4.
Boarmia cornaria, *Guen. Phal.* i, p. 254; *C. & S.* no. 3318.
Boarmia alienaria, *Wlk. Cat.* xxi, p. 370; *Moore, Lep. Ceyl.* iii, pl. 191, figs. 1, 1 *a, b* (larva); *C. & S.* no. 3349.
Boarmia processaria, *Wlk. Cat.* xxi, p. 372; *C. & S.* no. 3332.
Boarmia repulsaria, *Wlk. Cat.* xxi, p. 374.
Boarmia invectaria, *Wlk. Cat.* xxi, p. 375; *C. & S.* no. 3326.
Boarmia procursaria, *Wlk. Cat.* xxi, p. 375; *Moore, Lep. Ceyl.* iii, pl. 191, fig. 3; *C. & S.* no. 3347.
Boarmia properata, *Wlk. Cat.* xxi, p. 376; *C. & S.* no. 3334.
Boarmia injectaria, *Wlk. Cat.* xxi, p. 376; *C. & S.* no. 3351.
Boarmia concursaria, *Wlk. Cat.* xxi, p. 377; *C. & S.* no. 3315.
Boarmia determinata, *Wlk. Cat.* xxi, p. 384.
Boarmia sublectaria, *Wlk. Cat.* xxvi, p. 1535.

Boarmia contectaria, *Wlk. Cat.* xxvi, p. 1537; *C. & S.* no. 3316.
Boarmia gelidaria, *Wlk. Cat.* xxvi, p. 1537.
Boarmia illustraria, *Wlk. Cat.* xxvi, p. 1539.
Boarmia immemorata, *Wlk. Cat.* xxvi, p. 1540.
Chogada fraterna, *Moore, Lep. Atk.* p. 245; *C. & S.* no. 3350.

Differs from *selenaria* in the white forms having a rufous band on second abdominal segment; the centre of cell-spots pure white; a rufous band inside the antemedial line of fore wing, and rufous suffusion beyond the postmedial line, especially on apical area.

Cornaria is a fuscous form with the underside also fuscous, usually with some white marginal patches beyond the submarginal band; *procursaria* is a variety of this form, with the postmedial line of fore wing more oblique and slightly sinuous, not waved from vein 6 to inner margin.

Acaciaria is a form with the ground-colour whitish on upper and under sides, the submarginal band on the latter slightly developed; *illustraria*, from Australia, has the black on outer area of underside more extensive, whilst in *determinata*, from Borneo, it covers nearly half the wing; in *processaria*, from Moulmein, there is a prominent medial line to both wings excurved round the cell-spot on fore wing, and sending a dark streak along vein 4 to outer

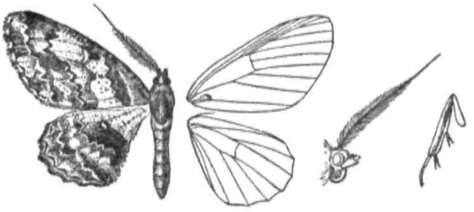

Fig. 137.—*Boarmia acaciaria*, ♂. 1/1.

margin; *immemorata*, from New Caledonia, is similar, but browner, and with the streak on vein 4 developed on hind wing also; a specimen from Sikhim has the ground-colour yellowish.

Larva green, with a pair of bifid dorsal processes on 5th somite, and a pair of dorsal white spots on 11th somite; thoracic and anal somites with black lateral specks; head and legs reddish. Food-plant *Cinnamomea*.

Hab. W. and S. Africa; Madagascar; China; Formosa; throughout India, Ceylon, and Burma; Java; Borneo; Australia; New Caledonia. *Exp.* 36–50 millim.

3405. **Boarmia propulsaria**, *Wlk. Cat.* xxi, p. 385.
Boarmia contiguata, *Moore, P. Z. S.* 1867, p. 631; *C. & S.* no. 3317.

♂. Differs from *acaciaria* in being pale with browner markings; the obliquely waved antemedial line of fore wing and postmedial line of both wings double; fore wing with a dentate medial line.

Underside whitish, with the cell-spots large; the marginal area black, with whitish patches on the margin.

A specimen from Tenasserim has the ground-colour yellow-brown, the markings slate-colour.

Hab. Sikhim; Khásis; Nágas; Tenasserim; Sumatra; Borneo. *Exp.* 42 millim.

3406. **Boarmia variegata,** *Moore, Lep. Atk.* p. 240; *C. & S.* no. 3291.
Cleora nebulosa, *Swinh. Trans. Ent. Soc.* 1891, p. 488.

♂. Differs from *acaciaria* in the fovea being very large and further from the base, so that the median nervure is bent upwards; hind wing with the costa, costal and subcostal nervures much arched. Red-brown; abdomen with a dark band on 1st segment. Fore wing with the lines indistinct, the stigma at end of cell without white centre; the postmedial line reduced to a series of specks, and not angled beyond cell. Hind wing with a dark speck replacing the white-centred stigma; the postmedial and submarginal lines indistinct.

Hab. Sikhim; Khásis. *Exp.* 36 millim.

3407. **Boarmia melanosticta,** n. sp.

♂. Pale red-brown; head blackish; abdomen with black dorsal bands and a large patch towards extremity. Fore wing with black basal, medial, and submarginal patches on costa and a large patch at outer angle; traces of waved antemedial, medial, and submarginal lines and a postmedial series of black specks. Hind wing with the outer margin highly crenulate; a broad medial black band, somewhat broken at costa; a postmedial black band interrupted at middle; an apical black patch; both wings with some black specks on margin. Underside with black medial band and postmedial series of spots to both wings.

Hab. Sikhim, 12,000 feet (*Knyvett*). *Exp.* 42 millim. Type in coll. Elwes.

3408. **Boarmia nigralbata,** *Warr. P. Z. S.* 1893, p. 421.

Veins 7, 8, 9, 10 of fore wing stalked.

♂. White, thickly irrorated with smoky black; head, thorax, and abdomen suffused with black. Fore wing with the subbasal and outer areas suffused with black; a black speck at end of cell; a crenulate white submarginal line. Hind wing with the irroration thickest on area from lower angle of cell to anal angle; a black speck at end of cell and crenulate white submarginal line.

Hab. Sikhim. *Exp.* 40 millim.

3409. **Boarmia semialba,** *Moore, Lep. Atk.* p. 241; *C. & S.* no. 3290.

Vinous brown, irrorated with fuscous. Fore wing with some black at base; an antemedial black line slightly angled below costa; a spot on discocellulars, and rufous suffusion on inner

medial area; a postmedial indistinct line bent outwards at veins 6 and 2; a submarginal waved grey line with black inside it and rufous patch beyond it at middle; a marginal series of specks. Hind wing semihyaline white, with traces of speck at end of cell and postmedial series; some fuscous striation on inner area and a marginal striated band. Underside white, with cell-spots, postmedial series of specks, and fuscous marginal band.

Hab. N.W. Himalayas; Sikhim; Khásis. *Exp.* 40 millim.

3410. **Boarmia imbecilis,** *Moore, Lep. Atk.* p. 241; *C. & S.* no. 3289.

Differs from *semialba* in the fore wing having a black-edged white patch at base on the fovea; the antemedial line obsolete; the postmedial line reduced to an almost straight series of specks, with some whitish inside them, and a purplish band between them and the waved submarginal line. Hind wing with no marginal band, but some dark marks on inner margin, and traces of a submarginal line.

Hab. Sikhim. *Exp.* 40 millim.

3411. **Boarmia nigridorsaria,** *Guen. Phal.* i, p. 232.

Cleora venustularia, *Wlk. Cat.* xxxv, p. 1579; *C. & S.* no. 3304.
Cleora decussata, *Moore, P. Z. S.* 1867, p. 628, pl. 33, fig. 4; *C. & S.* no. 3294.

Antennæ of male with the branches rather short, stiff, and far apart.

Head whitish; thorax black; abdomen whitish, with white band on 1st segment, and dorsal black bands. Fore wing white, irrorated with black; a white spot on diffused black basal patch; slight traces of antemedial and medial lines arising from black patches on costa; an indistinct postmedial line angled at vein 5, with grey and black suffusion between it and the submarginal waved white line, which has rufous and blackish patches beyond it at middle. Hind wing white, with speck at end of cell and traces of postmedial and submarginal lines. Underside with cell-spots; fore wing with incomplete submarginal band.

Some specimens have the fore wing much more evenly suffused with fuscous and rufous, whilst *decussata* has two prominent medial white bands conjoined at middle.

Hab. N.W. Himalayas; Sikhim. *Exp.* 30–34 millim.

3412. **Boarmia semiclarata,** *Wlk. Cat.* xxiv, p. 1029; *C. & S.* no. 3303.

Scotosia quadrifera, *Wlk. Cat.* xxxv, p. 1687.
Cleora rufomarginata, *Moore, P. Z. S.* 1867, p. 628; *C. & S.* no. 3302.

Rufous, irrorated with black; abdomen with white band on 1st segment, and more or less black on dorsum. Fore wing with some black at base; a curved antemedial line with diffused black inside it; a black spot at end of cell; a postmedial line angled at vein 6,

and with diffused black beyond it; a submarginal pale waved line, with black patch beyond it below apex and ochreous patch at middle. Hind wing pale ochreous, with some fuscous striæ; a speck at end of cell, and two indistinct fuscous lines. Underside ochreous, irrorated with fuscous; black cell-spots and postmedial line with black streaks on the veins.

Semiclarata has the hind wing striated on inner area only; *quadrifera* is striated throughout.

Hab. N.W. Himalayas; Sikhim; Khásis. *Exp.*, ♂ 34, ♀ 40 millim.

3413. **Boarmia atrostipata,** *Wlk. Cat.* xxv, p. 1354; *C. & S.* no. 3276.

Red-brown, irrorated and striated with black; abdomen with a white and black band on the 1st segment. Fore wing with ante- and postmedial pale yellow black-edged bands, which vary in width, the former slightly outwardly oblique, the latter inwardly oblique; a black speck at end of cell, with an indistinct crenulate line beyond it; an irregularly dentate submarginal pale line bent out to outer angle, and with black spots in its angles. Hind wing paler; a cell-spot and more or less prominent postmedial line with a pale band on its outer edge.

Hab. Simla; Sikhim. *Exp.* 44–50 millim.

3414. **Boarmia vialis,** *Moore, Lep. Atk.* p. 238, pl. 8, fig. 9; *C. & S.* no. 3275.

♂. Differs from *atrostipata* in the branches of the antennæ being shorter. Fore wing with no antemedial band; the postmedial band much broader, straight, and oblique. Hind wing with the postmedial band very broad.

Hab. Sikhim; Khásis. *Exp.* 42 millim.

3415. **Boarmia glaucodisca,** *Swinh. A. M. N. H.* (6) xiv, p. 139.

♂. Red-brown, irrorated with black. Fore wing with traces of a curved antemedial line arising from a black speck on costa; a black spot at end of cell, with traces of a medial line curving round it; the discal area greenish grey; an oblique postmedial series of specks; an irregularly dentate grey submarginal line; a marginal series of black specks. Hind wing pale reddish, with a few black strigæ; an indistinct cell-spot, and traces of a submarginal line: a marginal series of black strigæ. Underside yellowish white; each wing with black cell-spot; fore wing with broad marginal black band, with white patch on it at middle; hind wing with apical black patch.

♀ with only traces of the grey discal patch on fore wing. Hind wing as dark as fore wing, with sinuous submarginal series of specks and white submarginal line. Underside whiter.

Hab. Khásis; E. Pegu. *Exp.* 40 millim.

3416. **Boarmia admissaria**, *Guen. Phal.* i, p. 239; *C. & S.* no. 3309.
Boarmia pleniferata, *Wlk. Cat.* xxvi, p. 1538; *C. & S.* no. 3330.
Boarmia perspicuata, *Moore, P. Z. S.* 1867, p. 630; *C. & S.* no. 3329.
Boarmia trikotaria, *Feld. Reis. Nov.* pl. 126, fig. 10; *C. & S.* no. 3338.
Boarmia iterata, *Butl. P. Z. S.* 1886, p. 389; *C. & S.* no. 3327.
Alcis vicina, *Moore, Lep. Atk.* p. 243; *C. & S.* no. 3343.
Alcis nudipennis, *Warr. P. Z. S.* 1888, p. 320; *C. & S.* no. 3340 A.
Alcis subnitida, *Warr. P. Z. S.* 1893, p. 421.

Fuscous brown; red-brown or grey-brown, irrorated with black; abdomen with grey band on 1st segment. Fore wing with curved antemedial black line; a medial oblique line usually dentate below the cell, with a black discocellular line on it; a sinuous postmedial line, usually with some dark suffusion beyond it; an indistinct pale waved submarginal line. Hind wing with antemedial line; sometimes a line on discocellulars; an obliquely curved postmedial line; a pale waved submarginal line; both wings with crenulate black marginal line. Underside pale ochreous; fore wing with fuscous patch at apex, or complete submarginal or marginal band. Hind tibiæ with the ridge of hair pale or black.

The form *pleniferata*, from Bhután, is fuscous brown; fore wing with a dark spot beyond middle of postmedial line: *trikotaria*, from the N.W. Himalayas, is a reddish form, typically with the medial area of fore wing whitish: *nudipennis*, also from the N.W. Himalayas, is greyish, often with the medial line of fore wing straight and close to the antemedial line: typical *admissaria* is dark, with an olive tinge, more variegated with grey; fore wing with a postmedial rufous shade; the waved submarginal line grey: *subnitida* is much more uniform dark grey.

Hab. N.W. Himalayas; Bhután; Khásis. *Exp.* 42–50 millim.

3417. **Boarmia sikkima**, *Moore, Lep. Atk.* p. 242; *C. & S.* no. 3341.
Alcis subrufaria, *Warr. P. Z. S.* 1893, p. 422.

♂. Differs from *admissaria* form *trikotaria* in the medial line of fore wing being bent outwards round the black band on discocellulars; the medial area rufous; both wings with a nearly regular postmedial series of specks instead of the sinuous line. Underside more ochreous, with more black irroration on basal and outer areas.

Hab. Sikhim. *Exp.* 54–64 millim.

3418. **Boarmia reparata**, *Wlk. Cat.* xxi, p. 380; *C. & S.* no. 3336.

Fore wing with veins 10 and 11 stalked, connected with 12, and 10 connected with 8 and 9.

♂. Red-brown, irrorated with fuscous. Fore wing with irregularly waved indistinct antemedial line; an indistinct waved line arising from a spot at middle of costa, and ending at lower angle of cell; both wings with a dentate postmedial line, oblique from vein 5 to inner margin of fore wing; a pale dentate submarginal line with fuscous marks in the sinuations; a marginal series of

dark specks. Underside fuscous; fore wing with the costa pale, with fuscous striæ; a pale patch at apex and dark spot on discocellulars.

♀ greyer, with the postmedial line more dentate and the submarginal more prominent; underside with the basal two-thirds paler, and a postmedial band.

Hab. Khásis. *Exp.*, ♂ 48, ♀ 50 millim.

3419. **Boarmia cineracea**, *Moore, Lep. Atk.* p. 244; *C. & S.* no. 3355.

Astacuda ampla, *Moore, Lep. Atk.* p. 244; *C. & S.* no. 3354.

♂. Antennæ with the branches long. Pale grey, evenly and thickly irrorated with fuscous, and with slight brown suffusion. Fore wing with an antemedial line from costa to median nervure; a medial spot on costa, with a spot below it on discocellulars; an oblique dentate postmedial line terminating on middle of inner margin; a crenulate submarginal line, with some white on its outer edge. Hind wing with irregular antemedial series of black spots; dentate postmedial and submarginal lines. Underside fuscous grey; black cell-spots, postmedial line, and suffusion on outer area; fore wing with the costa ochreous, with some black strigæ on it; the apex whitish.

Hab. Sikhim; Khásis. *Exp.* 62 millim.

3420. **Boarmia sublavaria**, *Guen. Phal.* i, p. 256; *Moore, Lep. Ceyl.* iii, pl. 190, figs. 2, 2 *a*; *C. & S.* no. 3348.

Catoria olivescens, *Moore, Lep. Atk.* p. 244; *C. & S.* no. 3346.

Fore wing with veins 10 and 11 stalked in male, and sometimes connected with 12; female with 11 anastomosing or coincident with 12.

Greyish white; frons and palpi black; wings irrorated with pale fuscous spots. Fore wing with antemedial, both wings with medial, postmedial, submarginal, and marginal series of specks; traces of a ring-spot at end of cell. Underside fuscous, with very large black cell-spots and white marginal patches at apex and middle of each wing.

The form *olivescens* is somewhat suffused with pale fuscous.

Hab. Throughout India, Ceylon, and Burma; Borneo. *Exp.* 40–45 millim.

3421. **Boarmia trispinaria**, *Wlk. Cat.* xxi, p. 378; *C. & S.* no. 3339.

Differs from *sublavaria* in the frons being grey; the markings brownish; a dark spot at end of cell of each wing with tridentate white mark on it. Underside white, with black patch at end of cell and broad band across apex of each wing.

Hab. Kulu; Sikhim; Khásis; Upper Burma; Mergui. *Exp.* 50 millim.

b. (Serraca). *Male with fold on inner margin of hind wing containing fringes of long hair.*

3422. **Boarmia infixaria,** *Wlk. Cat.* xxi, p. 379; *C. & S.* no. 3325.

♂. Greyish red-brown. Wings with the antemedial line excurved below costa of fore wing; a grey-centred dark spot at end of cell of fore wing, with striga from costa above it; a slightly waved postmedial line excurved beyond cell, then on fore wing oblique to inner margin, near which it has a short line inside it; traces of a dentate pale submarginal line; a marginal series of specks. Underside whitish, with large black cell-spots; a postmedial more or less prominent narrow band excurved beyond cell; a patch at apex of fore wing, or complete marginal band to both wings.

♀ greyer.

Hab. Sikhim; Bombay; Burma. *Exp.* 36 millim.

3423. **Boarmia transcissa,** *Wlk. Cat.* xxi, p. 380; *Moore, Lep. Ceyl.* iii, p. 416, pl. 190, figs. 3, 3 *a*; *C. & S.* no. 3353.
Boarmia lineataria, *Wlk. Cat.* xxxv, p. 1585.
Chogada latipennis, *Butl. Ill. Het.* vii, p. 103, pl. 136, fig. 2.
Boarmia ratotaria, *Swinh. Trans. Ent. Soc.* 1894, p. 216, pl. ii, fig. 18.

Differs from *infixaria* in the antemedial line of fore wing being less regular; the cell-spots smaller; the medial line waved; the postmedial line of both wings more oblique; the submarginal line much more prominent. Underside pale fuscous, with small cell-spots, obsolescent postmedial line, and diffused marginal band.

Ratotaria is a rather dark form from Bhután and the Khásis.

Hab. Dharmsála; Sikhim; Bhután; Assam; Nilgiris; Ceylon; Burma; Java. *Exp.* 38–44 millim.

B. (Boarmia). *Hind tibiæ of male not dilated.*

a. *Fore wing of male of normal breadth.*

3424. **Boarmia impletaria,** *Wlk. Cat.* xxvi, p. 1536; *C. & S.* no. 3324.

Differs from typical *acaciaria* (p. 264) in the underside being pale fuscous, with dark cell-spots and slight suffusion at apex of each wing.

The Canarese specimen has fuscous suffusion inside the antemedial and beyond the postmedial line of fore wing, and beyond the ante- and postmedial lines of hind wing.

Hab. Ganjam; Canara; Nilgiris. *Exp.* 46 millim.

3425. **Boarmia albifera,** *Moore, Lep. Atk.* p. 241; *C. & S.* no. 3288.

♂. Rufous, striated and suffused with black; antennæ with the shaft black and white. Fore wing with a broad white band from costa beyond middle to outer margin below the middle, and sending a fork to above outer angle; traces of antemedial, postmedial, and submarginal waved lines; the postmedial excurved

beyond cell, then incurved below the cell. Hind wing fuscous grey, with pale striæ.

♀ with a portion of the band of fore wing near the outer margin ochreous.

Hab. Sikhim. *Exp.* 38 millim.

3426. **Boarmia flavimedia,** n. sp.

♂. Head, thorax, and abdomen olive-yellow. Fore wing olive-yellow, with fuscous striæ; the basal half to near end of cell suffused with fuscous, leaving specks of the ground-colour; a large black cell-spot; the outer area suffused with fuscous, except a marginal patch of yellow below apex and another at middle joining the medial yellow area, a waved submarginal line forming pale-edged lunules above middle. Hind wing olive-yellow, with fuscous striæ; the outer area almost entirely fuscous.

Hab. Sikhim. *Exp.* 40 millim. Type in B. M.

3427. **Boarmia megaspilaria,** *Moore, P. Z. S.* 1867, p. 629; *C. & S.* no. 3300.

♂. Head, thorax, and abdomen fuscous; a white dorsal spot on 1st segment of abdomen. Fore wing fuscous brown, the inner area reddish; the outer area darkest, with a fulvous patch at middle; a black spot at end of cell; the antemedial, medial, and postmedial lines represented by obscure spots on the costa and inner margin. Hind wing reddish fulvous, irrorated with fuscous; the basal and inner areas suffused with fuscous; an indistinct speck at end of cell and oblique postmedial and submarginal lines.

♀ with the markings of the fore wing more prominent.

Hab. Sikhim. *Exp.* 40 millim.

3428. **Boarmia tenera,** *Warr. P. Z. S.* 1893, p. 422.
Alcis dasimaria, *Swinh. A. M. N. H.* (6) xii, p. 223.

♂. Veins 10 and 11 of fore wing sometimes stalked; pale, irrorated with black; head and thorax reddish; abdomen with a pale band on 1st segment. Fore wing reddish; a sinuous antemedial black line; a speck at end of cell; a sinuous postmedial line excurved at vein 6 and obsolescent towards inner margin; a waved submarginal pale line. Hind wing with speck at end of cell and traces of postmedial and submarginal lines; both wings with series of marginal black specks. Underside pale, with speck at end of cell and postmedial line.

♀ whiter, with prominent dark irroration and hardly any rufous suffusion.

Hab. Sikhim. *Exp.* 34 millim.

3429. **Boarmia fuliginea,** *Hmpsn. Ill. Het.* viii, p. 120, pl. 152, fig. 4.
Psilalcis atrifasciata, *Warr. P. Z. S.* 1893, p. 431.

Veins 10 and 11 of fore wing stalked; (hind legs wanting). Pale rufous, suffused with darker rufous and slightly irrorated with silvery and fuscous scales. Fore wing with waved ante- and post-

medial lines, the latter angled beyond the cell, and the area between the two suffused with black; an indistinct pale waved submarginal line with a blackish patch beyond it above middle. Hind wing with indistinct dark medial and pale dentate submarginal lines.

Hab. Sikhim; Nilgiris. *Exp.*, ♂ 30, ♀ 38 millim.

3430. **Boarmia adamata**, *Feld. Reis. Nov.* pl. 126, figs. 5, 5 *a*; *C. & S.* no. 3305.

Menophra imbecilis, *Moore, Lep. Ceyl.* iii, p. 410, pl. 187, fig. 7; *C. & S.* no. 3272.

Narapa indistincta, *Moore, Lep. Ceyl.* iii, p. 411, pl. 187, fig. 5; *C. & S.* no. 3306.

Narapa similaris, *Moore, Lep. Ceyl.* iii, p. 411, pl. 187, fig. 9 *C. & S.* no. 3307.

Narapa umbrata, *Moore, Lep. Ceyl.* iii, p. 411, pl. 187, fig. 10 *C. & S.* no. 3308.

♂. Veins 10 and 11 of fore wing stalked, and 11 anastomosing with 12. Red-brown, irrorated and suffused with fuscous. Fore wing with two antemedial curved lines approaching each other towards inner margin; a speck at end of cell, with strigæ from costa above it; a postmedial line angled at vein 5, then obliquely sinuous to inner margin, sometimes with black spot beyond it at middle. Hind wing with indistinct antemedial line, speck at end of cell; postmedial line excurved round cell; both wings with dentate grey-edged submarginal line and crenulate black marginal line. Underside orange-fulvous, with spots at end of cell, and irregular postmedial line; the outer area of fore wing black, with pale patches at apex and middle; hind wing with black patch at middle of margin.

♀ with the ground-colour grey, suffused in parts with fulvous, and sometimes with dark suffusion beyond postmedial line of fore wing.

Hab. Ceylon. *Exp.* 35–44 millim.

3431. **Boarmia pallida**, *Hmpsn. Ill. Het.* viii, p. 106, pl. 150, fig. 9.

Veins 10 and 11 of fore wing stalked, 11 becoming coincident with 12. Greyish white, irrorated with fuscous. Fore wing with three antemedial specks, the one on costa largest; a speck at end of cell and spot on costa above it; a maculate postmedial line excurved from vein 6 to 2; a submarginal crenulate line; a marginal series of specks. Hind wing with antemedial specks: a speck at end of cell; a postmedial crenulate line excurved beyond cell; submarginal and marginal crenulate lines. Underside pale, with broad marginal fuscous band with white patches at apex and middle; hind wing with submarginal fuscous shade.

Hab. Nilgiris. *Exp.* 30 millim.

3432. **Boarmia retrahens**, *Moore, Lep. Atk.* p. 236; *C. & S.* no. 3285.

♂. Olive-brown, irrorated with dark brown and leaden grey. Fore wing with a fulvous patch on inner margin near base; an

indistinct antemedial line; a black spot on discocellulars; an indistinct medial line excurved round the end of cell and bent inwards below the angle; an obliquely crenulate postmedial line nearly joining the medial line at inner margin; an oblique submarginal line with traces of a lunulate line beyond it, a fulvous spot on it below apex, and larger spots on its inner edge at veins 5 and 1. Hind wing with oblique antemedial line; a crenulate postmedial line; an indistinct sinuous submarginal line, with traces of a lunulate line beyond it, and some fulvous inside it at vein 6 and towards inner margin.

Hab. Sikhim. *Exp.* 65 millim.

3433. **Boarmia nilgirica**, *Hmpsn. Ill. Het.* viii, p. 107, pl. 150, fig. 12.

♂. Grey, evenly irrorated with fuscous and slightly suffused with rufous. Fore wing with two antemedial lines excurved below costa and oblique towards inner margin; a dark spot at end of cell; an indistinct waved medial line and crenulate grey-edged postmedial and submarginal lines. Hind wing with indistinct antemedial line; a spot at end of cell; crenulate grey-edged postmedial and submarginal lines, the former excurved beyond cell; both wings with crenulate dark marginal line. Underside pale with cell-spots; waved irregular postmedial line; the outer area of fore wing fuscous, with pale patches at apex and middle.

Hab. Nilgiri plateau; Travancore. *Exp.* 46 millim.

3434. **Boarmia granitaria**, *Moore, Lep. Atk.* p. 246; *C. & S.* no. 3408.
Alcis sublimis, *Butl. Ill. Het.* vii, p. 103, pl. 135, fig. 19.

♂. Grey and pale fulvous, irrorated and suffused with fuscous black. Fore wing with the basal area almost entirely suffused with fuscous; traces of an antemedial line; a lunule on discocellulars; a short medial band from costa; the medial area pale; outer area mostly suffused with fuscous, a postmedial series of specks and submarginal waved grey line. Underside pale, with the marginal area fuscous, with pale patches at apex of fore wing and middle of margin of both wings.

♀ usually with the whole of both wings much more uniformly irrorated with fuscous.

Hab. N.W. Himalayas; Sikhim. *Exp.*, ♂ 44, ♀ 44–50 millim.

b. *Fore wing of male long and narrow.*

3435. **Boarmia hybernaria**, *Swinh. P. Z. S.* 1885, p. 862, pl. 56, fig. 4; *C. & S.* no. 3749.

♂. Fuscous brown; both wings with speck at end of cell; traces of ante- and postmedial lines; the outer area darker.

Hab. Bombay; Nilgiris. *Exp.* 34 millim.

3436. **Boarmia nigrescens**, *Warr. P. Z. S.* 1893, p. 420.

Fore wing with veins 7, 8, 9, 10 stalked

♂. Head, thorax, and abdomen rufous and fuscous black. Fore wing with a large dark-speckled rufous patch at base and conjoined patches on outer area, smallest towards costa, largest towards inner margin. Hind wing with a similar patch on inner half of outer area; both wings with a dark speck at end of cell and the cilia intersected with rufous. Underside fuscous, with some rufous on costa of fore wing beyond middle.

♀. The wings broader; fore wing with no fulvous at base; hind wing with an indistinct waved postmedial line.

The rufous markings are often almost obsolete.

Hab. Sikhim; Khásis; Margharita, Assam. *Exp.*, ♂ 35–38, ♀ 50 millim.

3437. **Boarmia fimbriata,** *Moore, P. Z. S.* 1867, p. 628; *C. & S.* no. 3297.

♂. Differs from *nigrescens* in being chiefly rufous, the black suffusion being confined on the fore wing to the costal area from the base to the postmedial line, and on the hind wing to between the antemedial and medial lines. Fore wing with oblique antemedial, crenulate oblique postmedial, and traces of submarginal lines; a spot at end of cell, dark patch on margin below apex, and marginal series of black specks. Hind wing with speck at end of cell: antemedial and crenulate medial lines, the latter with grey on its outer edge; traces of submarginal line, with some grey marks on it below apex; marginal series of specks.

Hab. Sikhim; Nágas. *Exp.* 40 millim.

GROUP II. Male with no fovea at base of fore wing.

SECT. I. Hind wing with vein 5 absent.

A. (Hemerophila). *Male with the antennæ bipectinated, the branches decumbent; hind tibiæ usually dilated with a fold and tuft of hair.*

a. *Male with no secondary sexual patch to hind wing.*

a'. *Fore wing with vein 10 from the cell.*

3438. **Boarmia subplagiata,** *Wlk. Cat.* xxi, p. 319; *C. & S.* no. 3284.
Hemerophila retractaria, *Moore, P. Z. S.* 1867, p. 627; *C. & S.* no. 3283.
Hemerophila senilis, *Butl. Ill. Het.* ii, p. 48, pl. 35, fig. 12.
Hemerophila jugorum, *Feld. Reis. Nov.* pl. 126, fig. 2; *C. & S.* no. 3280.
Menophra torridaria, *Moore, Lep. Atk.* p. 237, pl. 8, fig. 27; *C. & S.* no. 3274.
Hemerophila lignata, *Warr. Nov. Zool.* p. 680.

Ochreous grey-brown, rufous, or fuscous brown, with dark irroration and striæ; collar often fringed with black, and the thorax hoary. Fore wing with antemedial black line, angled on subcostal and median nervures, then oblique and slightly sinuous to inner margin; a speck beyond it at end of cell; a postmedial

black line highly angled on vein 7, then oblique to inner margin, and with some dark suffusion beyond it, especially below apex. Hind wing with waved black line from near apex to inner margin before anal angle, some dark suffusion beyond it; both wings with waved marginal black line. Underside whitish, with a more or less developed broad dark submarginal band.

The base of the fore wing may be suffused with fuscous or grey and with grey beyond the postmedial line, and a large white patch on outer margin of hind wing near anal angle.

Hab. Japan; N.W. Himalayas; Sikhim. *Exp.* 42 millim.

3439. **Boarmia delineata**, *Wlk. Cat.* xxi, p. 387.

Hemerophila canidorsata, *Wlk. Cat.* xxxv, p. 1578; *C. & S.* no. 3269.

Menophra nigrifasciata, *Hmpsn. Ill. Het.* viii, p. 105, pl. 150, fig. 1.

Hemerophila subpilosa, *Warr. Nov. Zool.* p. 434.

Differs from *subplagiata* in being more stoutly built; the fore wing less produced. Males with the underside of hind wing clothed with long rough hair and scales on the inner area, especially below the middle of cell.

The range of variation is similar. In the form *nigrifasciata* from the Nilgiris the black lines are stronger, and on the fore wing the ante- and postmedial lines approach each other at lower angle of cell; underside without the dark band beyond the postmedial line.

Hab. Khásis; Nilgiris; Ceylon; Borneo. *Exp.* 40 millim.

3440. **Boarmia perserrata,** *Wlk. Cat.* xxv, p. 1353; *C. & S.* no. 3824.

♂. Antennæ bipectinated almost to apex, tibiæ not dilated and without fold. Colour rufous, suffused with fuscous. Differs from *subplagiata* in the antemedial line of fore wing being less angled on subcostal and median nervures, then less oblique, the postmedial less angled at vein 7. Hind wing with the postmedial line excurved from costa to vein 4. Underside uniform in colour.

♀ yellower brown.

Hab. Canara; Nilgiris. *Exp.* 42 millim.

3441. **Boarmia humeraria,** *Moore, P. Z. S.* 1867, p. 627; *C. & S.* no. 3279.

♂. Differs from *subplagiata* in being larger, paler, and redder. Fore wing with the antemedial line double, much more highly angled below costa and beyond lower angle of cell, then very oblique; the postmedial line indistinct, with other indistinct waved lines beyond it. Hind wing with the oblique postmedial line and black line beyond it more distinct; the latter with fine rufous lines beyond it: the margin produced to points at veins 4 and 7.

Hab. Sikhim; Khásis. *Exp.* 60 millim.

3442. **Boarmia cuprearia**, *Moore, P. Z. S.* 1867, p. 626; *C. & S.* no. 3278.

♂. Dark purple-grey, irrorated and suffused with fuscous. Fore wing with the veins rufous; indistinct waved subbasal and antemedial lines; a spot at end of cell; a double waved postmedial line; a submarginal series of indistinct patches traversed by a rufous line from vein 4 to inner margin. Hind wing with a speck at end of cell; two crenulate postmedial lines; a diffused maculate submarginal band traversed by a rufous line from vein 4 to anal angle; both wings with crenulate marginal line.
Hab. Sikhim. *Exp.* 46 millim.

b′. *Fore wing with veins* 10 *and* 11 *stalked.*

3443. **Boarmia contubernalis**, *Moore, Lep. Atk.* p. 238; *C. & S.* no. 3360.

♂. Differs from *perserrata* in being grey-brown. Fore wing with the antemedial line curved and not angled on median nervure: the postmedial line curved beyond the cell and less oblique. Hind wing with the postmedial line almost straight and not so oblique.
Hab. Khásis. *Exp.* 40 millim.

3444. **Boarmia separata**, *Wlk. Cat.* xxi, p. 381; *Moore, Lep. Ceyl.* iii, pl. 202, fig. 8; *C. & S.* n. 3345.
Boarmia retractaria, *Wlk. Cat.* xxi, p. 386.
Boarmia intectaria, *Wlk. Cat.* xxvi, p. 1535.

♂. Rufous, suffused and striated in parts with black. Fore wing of male with a slight ridge representing the fovea; a broad, ill-defined, pale fascia from base to outer margin below apex; the costal, inner, and outer areas striated and suffused with black; an indistinct annulus at end of cell, and traces of a waved postmedial line. Hind wing striated with black; the basal area suffused with fuscous; a crenulate postmedial line; an incomplete submarginal black band. Underside fuscous, with the cell-spots prominent.
Hab. Sikhim; Khásis; Ceylon; Java; Borneo. *Exp.* 48 millim.

c′. *Fore wing with vein* 10 *stalked with* 7, 8, 9.

3445. **Boarmia dentilinea**, *Warr. P. Z. S.* 1893, p. 431.

♂. White, suffused and irrorated with black. Fore wing with a waved antemedial line; a crenulate postmedial line approaching the medial line below vein 2, the area between the two suffused with black, and with a black spot at end of cell; outer area suffused with black, and with an ill-defined waved submarginal white line. Hind wing with slight black irroration; a spot at end of cell, and postmedial line excurved and crenulate below vein 4.
Hab. Sikhim; Rangoon. *Exp.* 26 millim.

3446. **Boarmia albibasis**, n. sp.

♀. Fore wing with vein 11 absent. Head rufous and fuscous; thorax and abdomen white. Wings with the basal half white, slightly striated with fuscous, this area being bounded by a slight dark line angled at vein 3 of fore wing; the outer half rufous, irrorated with fuscous; fore wing with postmedial series of black specks, and a maculate indistinct submarginal line.

Hab. Sikhim (*Knyvett*). *Exp.* 28 millim. Type in coll. Elwes.

3447. **Boarmia semicirculata**, *Moore, P. Z. S.* 1867, p. 654; *C. & S.* no. 3779.

Anagoge concinna, *Warr. P. Z. S.* 1893, p. 411.

Fore wing with vein 11 absent. Head, thorax, and abdomen grey and brown; an orange ring at base of collar, and white band at base of abdomen; wings pale fuscous, much irrorated with black. Fore wing with traces of a waved antemedial line; a black cell-speck; a broad ill-defined yellowish-white postmedial band, forking towards costa and not reaching inner margin; blue-grey and orange marginal lines, the latter with a series of black specks on it; cilia fuscous. Hind wing with traces of cell-speck, ante- and postmedial lines; the margin as on fore wing.

One female has an antemedial white band to fore wing, the postmedial band reaching inner margin, running out nearly to outer margin at middle, and not forked towards costa; hind wing with a diffused white band on postmedial area.

Hab. Sikhim; Nágas. *Exp.*, ♂ 22, ♀ 26–30 millim.

3448. **Boarmia albipicta**, *Warr. P. Z. S.* 1893, p. 410.

♀. Differs from *semicirculata*, of which it is possibly an extreme form, in being much darker; no orange collar or white abdominal band. Fore wing with the postmedial band reduced to narrow bands from costa to vein 5, and vein 2 to inner margin; a submarginal white spot below vein 4; a series of marginal orange specks to both wings. Hind wing with indistinct dark postmedial line bent outwards between veins 2 and 4.

Hab. Sikhim. *Exp.* 34 millim.

b. *Male with a patch of silvery differentiated scales below end of cell of hind wing; abdomen hairy below; hind legs with long curved hair from end of tibia.*

3449. **Boarmia combustaria**, *Wlk. Cat.* xxxv, p. 1597; *C. & S.* no. 3314.

Cleora albidentata, *Moore, P. Z. S.* 1867, p. 629; *C. & S.* no. 3292.

Red-brown; thorax and abdomen barred with black. Fore wing striated and suffused with fuscous; obliquely sinuous ante- and postmedial lines, the latter crenulate; a black spot at end of

cell; an indistinct waved pale submarginal line with a whitish spot at middle. Hind wing whitish, irrorated with fuscous; the inner and outer areas tinged with fulvous; a spot at end of cell; an oblique postmedial line from vein 6 to inner margin; traces of a submarginal line; a black marginal line.

In the variety of the female *albidentata* the white spots and dentate marks on the submarginal line of fore wing are prominent.

Hab. Sikhim. *Exp.* 42 millim.

B. (Apophyga). *Antennæ of male with the branches stiff and horizontal; fore wing with vein* 10 *from cell.*

3450. **Boarmia sericea,** *Warr. P. Z. S.* 1893, p. 418.

♂. Head and collar black-brown; thorax yellowish white; abdomen rufous, with a black line on basal segment. Fore wing dark red-brown, with a few dark striæ; a broad yellowish-white fascia occupying the costal one third of wing, the base of costa dark brown; traces of medial and submarginal pale waved lines on the brown area, the latter with two prominent white spots on it at middle. Hind wing whitish, the basal two-thirds slightly irrorated with brown, the outer third thickly irrorated and suffused; prominent slightly sinuous black antemedial and medial bands from below vein 6 to inner margin, and traces of a submarginal pale line.

Hab. Sikhim. *Exp.* 42 millim.

C. *Antennæ bipectinated in both sexes; fore wing with veins* 10 *and* 11 *stalked.*

3451. **Boarmia atrilineata,** *Butl. Trans. Ent. Soc.* 1881, p. 405.

Reddish grey, suffused and irrorated with fuscous; palpi and frons black; abdomen blackish at base. Fore wing suffused with fuscous, the costal area greyish and widest at base; a medial black line dentate from costa to lower angle of cell, then oblique and slightly sinuous to inner margin; a similar postmedial line angled outwards to near margin below the costa. Hind wing reddish grey with fuscous striation; a slightly sinuous oblique black line from near apex to inner margin beyond middle; the marginal area darker, with traces of a pale sinuous submarginal line. Underside paler, with cell-spot and indistinct crenulate postmedial line.

Hab. Japan; Dharmsála; Sikhim. *Exp.*, ♂ 58, ♀ 58–70 millim.

D. *Antennæ of male serrate and fasciculated; fore wing with veins* 10 *and* 11 *free.*

3452. **Boarmia virescens,** *Butl. A. M. N. H.* (5) vi, p. 126; *id. Ill. Het.* vi, pl. 116, fig. 1; *C. & S.* no. 3268.

Red-brown, irrorated and striated with brown and black; collar

fringed with black. Wings with an olive-green tinge. Fore wing with black lunule at end of cell and indistinct crenulate postmedial and submarginal lines. Hind wing with spot at end of cell and traces of medial and submarginal lines; a series of black striæ on margin. Underside of fore wing with a postmedial band of whitish striæ, and the apex whitish.

Hab. Sikhim. *Exp.*, ♂ 84, ♀ 110 millim.

E. *Antennæ of male ciliated.*

a. (Abaciscus). *Abdomen of male not hairy below.*

3453. **Boarmia tristis**, *Butl. Ill. Het.* vii, p. 102, pl. 135, fig. 18.

♂. Black; abdomen irrorated with white. Fore wing with waved black antemedial, medial, and crenulate postmedial lines; traces of a submarginal lunulate line; some white irroration on inner margin at the ante- and postmedial lines, and a large patch at middle of outer margin. Hind wing irrorated with white; a medial indistinct line; a crenulate postmedial line, with black-speckled white band beyond it extending to the margin at middle. Underside fuscous and white.

Hab. Dharmsála; Simla. *Exp.* 40 millim.

3454. **Boarmia figlina**, *Swinh. Trans. Ent. Soc.* 1890, p. 205, pl. 7, fig. 5.

♂. Fuscous, irrorated with grey; the vertex of head white; the anal tuft ochreous. Fore wing with some pale striæ on the costa and specks on the veins; very indistinct antemedial and medial dark lines, and better defined postmedial crenulate lines; some submarginal white specks. Hind wing with medial dark line and crenulate postmedial line edged with white; some submarginal white specks.

Hab. Khásis; Karen Hills. *Exp.* 34 millim.

3455. **Boarmia lamprosticta**, n. sp.

♂. Head and thorax black-brown, irrorated with silvery scales; abdomen brownish white. Fore wing whitish, irrorated with silvery scales; the basal area black-brown, with prominent silver irroration; a large olive-green spot in end of cell; a triangular postmedial silver-irrorated black-brown costal patch; outer area suffused with pale rufous and striated with brown; a dark submarginal spot at middle, and traces of a pale submarginal line. Hind wing whitish, with brown striæ; a small black basal patch, the outer area suffused with rufous, and with waved pale submarginal line; some chestnut patches towards apex. Underside fulvous yellow, with sinuous black submarginal line expanding into patches towards inner margin of fore wing and costa of hind wing.

Hab. Nágas; Tenasserim. *Exp.* 40 millim. Type in coll. Elwes.

b. (Gasterocoma). *Abdomen of male clothed with long hair below.*

a'. *Abdomen with no tuft below.*

3456. **Boarmia pannosaria,** *Moore, P. Z. S.* 1867, p. 629; *C. & S.* no. 3301.

♂. Head, thorax, and abdomen purplish; pale spots on vertex of head and metathorax, and paired black specks on abdomen. Fore wing greenish, with the outer area purplish; a double waved antemedial line; a medial line from cell to inner margin; a black patch with pale line on it at end of cell running outwards as a streak above vein 4; traces of two postmedial lines and a lunulate submarginal line. Hind wing ochreous white, with the outer area purplish; a spot at end of cell and brownish streaks above anal angle and on the margin; both wings with a marginal series of black lunules. Underside ochreous, with the marginal area of both wings and patch on fore wing purplish.

Hab. Dalhousie; Sikhim; Khásis. *Exp.* 40 millim.

b'. *Abdomen with a large tuft of black-tipped hair below on middle segments.*

3457. **Boarmia euryzona.**

Pœcilalcis latifasciata, *Warr. P. Z. S.* 1893, p. 427 (præocc.).

♂ Yellow and fuscous; abdomen with the anal tuft orange. Fore wing with the base yellow and fuscous; antemedial and postmedial oblique ochreous bands; the medial area fuscous; the outer area fuscous, becoming yellow with fuscous spots towards the postmedial line; an indistinct lunulate submarginal line. Hind wing with the basal half pale, spotted with fuscous; a spot at end of cell; a medial ochreous band; the outer area fuscous, with some yellow near the medial band and an indistinct lunulate submarginal line.

♀ with the fuscous on medial area of fore wing and outer area of both wings reduced and variegated with yellow.

Hab. Sikhim; Khásis. *Exp.* 40 millim.

F. *Antennæ of male thickened and flattened.*

a. (Micrabraxas). *Fore wing with vein* 10 *stalked with* 7, 8, 9, *and anastomosing with* 11.

3458. **Boarmia punctigera,** *Butl. Ill. Het.* vii, p. 113, pl. 137, fig. 7.

♂. Head, thorax, and fore wing olive-green, irrorated with black; abdomen and hind wing grey, irrorated with fuscous. Fore wing with antemedial, medial, and postmedial series of black specks, and a speck at end of cell; two prominent dentate submarginal marks between veins 4 and 6, and others less prominent towards costa and inner margin; a marginal series of black spots. Hind wing with marginal black specks; the cilia ochreous.

Hab. Dharmsála. *Exp.* 40 millim.

3459. **Boarmia incolorata**, *Warr. P. Z. S.* 1893, p. 427.

♀. Differs from *punctigera* in the head, thorax, and fore wing being grey, very thickly irrorated with black. Fore wing with the series of specks and the submarginal dentate marks less prominent. Hind wing more thickly irrorated with fuscous and with an indistinct cell-spot; the cilia grizzled.

Hab. Sikhim, 12,000 feet. *Exp.* 42 millim.

b. (Hirasa). *Fore wing with vein* 10 *from cell and anastomosing with* 11.

3460. **Boarmia scripturaria**, *Wlk. Cat.* xxxv, p. 1590; *C. & S.* no. 3361.

Scotopteryx permuscosa, *Warr. P. Z. S.* 1893, p. 432.

Pale brown, with slight darker irroration and a purplish bloom; a slight white tuft on metathorax. Fore wing with a sinuous antemedial line slightly angled below the costa; a speck at end of cell, a postmedial black line produced to a point on vein 6, then incurved to below end of cell; traces of a pale dentate submarginal line. Hind wing with a speck at end of cell; an oblique black slightly sinuous postmedial line, produced to a slight point at vein 6; traces of a dentate submarginal line; both wings with crenulate marginal line. Underside almost uniformly pale.

The variety *permuscosa* has the antemedial line of fore wing more erect and excurved below median nervure; the postmedial line excurved beyond cell and less oblique; greyish fuscous patches on the dentate submarginal line below apex and above inner margin. Hind wing with the postmedial line slightly sinuous beyond cell; large greyish-fuscous spots on the submarginal line below vein 6 and above inner margin. Underside with a broad diffused fuscous submarginal band.

Hab. Kulu; Sikhim; Bhután; Khásis; Nágas; E. Pegu; Mergui. *Exp.* 40–42 millim.

c. *Fore wing with veins* 10 *and* 11 *stalked.*

a'. *Fore wing with vein* 7 *present.*

3461. **Boarmia tephrosaria**, *Moore, Lep. Atk.* p. 247; *C. & S.* no. 3417.

♂. Pale drab, irrorated with brown. Fore wing with faint traces of antemedial and medial lines arising from black spots on costa; the medial line with a dark spot on it at end of cell; a curved dentate postmedial line arising from a black spot on costa; traces of a sinuous submarginal line; a marginal series of black specks. Hind wing with traces of an antemedial line; a speck at end of cell; a dentate postmedial line with ill-defined dark spots beyond it; a sinuous submarginal line and a marginal series of specks. Underside white, with cell-spots and indistinct medial

line; a crenulate postmedial line, the area beyond it entirely suffused with black on fore wing except a white patch at middle, on hind wing with some dark blotches.

Hab. Sikhim. *Exp.* 40 millim.

b′. *Fore wing with vein 7 absent;* 10, 11 *stalked,* 11 *anastomosing with* 12; *outer margin of each wing slightly excised towards outer angle.*

3462. **Boarmia lignicolor**, *Warr. P. Z. S.* 1893, p. 411.
Anagoge rufa, *Warr. P. Z. S.* 1893, p. 412.

Pale rufous, striated and suffused with fuscous. Fore wing with traces of waved antemedial line; a speck at end of cell; an indistinct waved postmedial line slightly defined with white towards costa; the marginal area irregularly grey, striated with rufous and brown, and widest at middle and above outer angle. Hind wing with indistinct cell-spot and waved postmedial line; both wings with fulvous marginal line.

Hab. Sikhim. *Exp.* 36 millim.

Sect. II. Hind wing with vein 5 present and from above middle of discocellulars; 6, 7 *stalked; antennæ of male bipectinated,* with long branches; hind tibiæ not dilated.

3463. **Boarmia isometra**, *Warr. P. Z. S.* 1888, p. 321; *C. & S.* no. 3408 A.

Grey-brown, irrorated with fuscous; each wing with small black ring-spot at end of cell; traces of a waved postmedial line and marginal indistinct line. Underside uniform whitish.

Hab. Campbellpur. *Exp.* 26 millim.

Genus **MEDASINA**.

Medasina, *Moore, Lep. Ceyl.* iii, p. 408 (1886).
Lassaba, *Moore, Lep. Atk.* p. 246 (1887).
Darisa, *Moore, Lep. Atk.* p. 243.
Deinotrichia, *Warr. P. Z. S.* 1893, p. 419.
Sinameda, *Warr. Nov. Zool.* p. 432 (1894).
Callocasta, *Swinh. Trans. Ent. Soc.* 1894, p. 218.

Type, *M. strixaria*, Guen.

Range. Throughout India, Ceylon, and Burma.

Palpi upturned and fringed with hair; antennæ of male bipectinated to three-fourths length; abdomen of male clothed with long hair below. Wings with the margins crenulated. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 from cell, sometimes connected with 8 and 9; 11 given off from 12, rarely anastomosing with 10. Hind wing with vein 3 from near angle of cell.

SECT. I. Hind tibiæ not dilated; antennæ of male with the branches long.

3464. **Medasina pulverulenta**, n. sp.

Pale fuscous brown, evenly irrorated with dark brown and fuscous. Fore wing with somewhat ill-defined and slightly sinuous oblique dark antemedial and medial lines; a more distinct postmedial line approaching the medial line below the cell, and with slight streaks from it along the veins. Hind wing with indistinct antemedial line and postmedial line excurved beyond cell: both wings with waved submarginal line and marginal series of specks. Underside pale fuscous, with small spot at end of cell of each wing.

Hab. Dharmsála (*Hocking*). *Exp.* 46 millim. Type in B. M.

3465. **Medasina scotosiaria**, *Warr. P. Z. S.* 1893, p. 420, pl. 30, fig. 9.

Dark brown, irrorated, striated, and suffused with black. Fore wing with interrupted and very ill-defined black antemedial, medial, and postmedial bands, the last with short black streaks on the veins; a crenulate whitish submarginal line, with a series of black spots in its sinuations. Hind wing paler, with speck at end of cell; a crenulate pale postmedial line defined inwardly by black; traces of a pale waved submarginal line; both wings with marginal series of black lunules.

Hab. Sikhim. *Exp.*, ♂ 54, ♀ 70 millim.

3466. **Medasina plumalis**, *Butl. A. M. N. H.* (5) vi, p. 126; *id. Ill. Het.* vi, pl. 116, fig. 5; *C. & S.* no. 3331.

♂. Pale reddish brown, thickly irrorated and slightly suffused with fuscous brown; abdomen blackish, with ochreous anal tuft. Fore wing with oblique sinuous antemedial, medial, and postmedial lines; a pale waved submarginal line, with some fuscous patches inside it. Hind wing with indistinct antemedial line; speck at end of cell; crenulate postmedial line and pale waved submarginal line; both wings with marginal series of small black lunules.

Hab. Sikhim. *Exp.* 70 millim.

3467. **Medasina objectaria**, *Wlk. Cat.* xxxv, p. 1583; *C. & S.* no 3282.

Boarmia gleba, *Swinh. P. Z. S.* 1885, p. 853, pl. 56, fig. 3; *C. & S.* no. 3323.

♂. Rufous brown, irrorated and striated with fuscous. Fore wing with indistinct antemedial waved line; a speck at end of cell, with striga from costa above it; a postmedial obliquely crenulate line, sometimes reduced to a series of specks; some indistinct submarginal dark and grey marks. Hind wing with diffused antemedial line; curved crenulate postmedial line; submarginal grey and dark marks. Underside pale fuscous, with cell-spots and indistinct postmedial line.

Hab. Sikhim; Poona. *Exp.* 50 millim.

3468. **Medasina nigrovittata**, *Moore, P. Z. S.* 1867, p. 626; *C. & S.* no. 3281.
Darisa fasciata, *Warr. Nov. Zool.* p. 433.

♂. Ochreous brown, irrorated with brown and black; collar and metathorax banded with black. Fore wing with a broad oblique black band from middle of median nervure to inner margin with a line inside it; both wings with a broad diffused band from outer margin below apex to inner margin beyond middle, traversed by obscure waved postmedial and submarginal lines, the former excurved towards costa of each wing. Underside with spot at end of cell, the outer area black, with pale spot at apex and patch on inner part of outer margin of hind wing.

Hab. Sikhim; Khásis; Nágas. *Exp.* 50 millim.

3469. **Medasina plumosa**, *Hmpsn. Ill. Het.* viii, p. 105, pl. 150. fig. 18.

♂. Differs from *parisnattei* (p. 286) in the hind wing and medial area of fore wing being sometimes olive-brown; fore wing with the antemedial line prominent; no spot at end of cell; the postmedial line prominent and incurved below vein 2.

♀ variegated with white, especially on medial area of fore wing.

Hab. Nilgiris. *Exp.* 75 millim.

SECT. II. Hind tibiæ dilated with a fold containing a ridge of hair; antennæ of male with the branches of moderate length.

3470. **Medasina mauraria**, *Guen. Phal.* i, p. 218; *Feld. Reis. Nov.* pl. 126, figs. 18, 18 *a*, & 19, 19 *a*; *C. & S.* no. 3264 (part.).

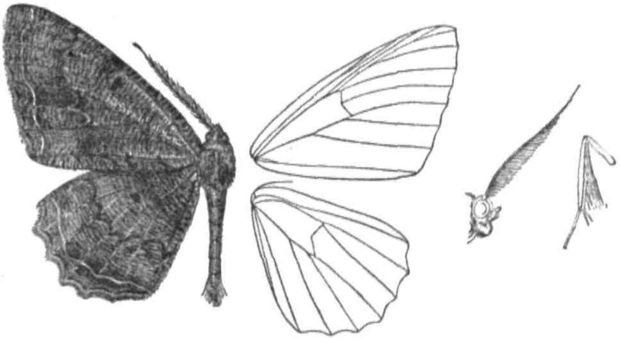

Fig. 138.—*Medasina mauraria*, ♂. 1/1.

♂. Differs from *parisnattei* in the medial line of fore wing being represented by a black spot on costa and the postmedial crenulate line being incurved from vein 6 to inner margin.

Hab. Sikhim; Sylhet; Bernardmyo, Burma. *Exp.* 75 millim.

3471. **Medasina parisnattei**, *Wlk. Cat.* xxvi, p. 1545; *C. & S.* no. 3264 (part.).

♂. Dark red-brown, irrorated with black. Fore wing with antemedial spot on costa; indistinct curved medial line with spot on it at end of cell; an indistinct obliquely curved postmedial crenulate line excurved at vein 6; a pale spot at middle of outer margin. Hind wing with spot at end of cell; crenulate postmedial line; traces of a pale and dark submarginal line; both wings with black striæ on margin. Underside black, with white patches at apex of each wing and middle of outer margin of fore wing.

Hab. Sikhim; Sylhet; Pareshnáth. *Exp.* 44–100 millim.

3472. **Medasina creataria**, *Guen. Phal.* i, p. 217; *C. & S.* no. 3260.

Reddish brown, evenly irrorated and striated with black; both wings with traces of a curved crenulate postmedial line and pale submarginal line; a marginal series of black striæ. Underside with broad fuscous band beyond the postmedial line; white patches at apex of each wing and middle of outer margin of fore wing.

Hab. Sikhim; Assam. *Exp.*, ♂ 90, ♀ 105 millim.

3473. **Medasina strixaria**, *Guen. Phal.* i, p. 217; *Moore, Lep. Ceyl.* iii, pl. 190, figs. 1, 1 *a*; *C. & S.* no. 3267.

♂. Brown, irrorated and striated with dark brown and black. Fore wing with a black spot at end of cell; traces of an oblique irregularly sinuous line from costa beyond middle to middle of inner margin, where there is another short line inside it; a prominent very oblique postmedial irregularly sinuous black line, excurved between veins 4 and 7, and with a dark shade beyond it below vein 4; an indistinct pale waved submarginal line. Hind wing with black spot at end of cell; crenulate postmedial line and indistinct pale submarginal line. Underside with a broad fuscous band beyond postmedial line of both wings.

♀ browner.

Hab. Sikhim; Assam; Moulmein; Nilgiris; Ceylon. *Exp.*, ♂ 72–80, ♀ 96 millim.

3474. **Medasina mucidaria**, *Wlk. Cat.* xxxv, p. 1581; *C. & S.* no. 3358.

Darisa maxima, *Moore, Lep. Atk.* p. 243; *C. & S.* no. 3357.

Olive-brown, irrorated and slightly suffused with reddish brown and fuscous; palpi black at sides. Fore wing with waved double indistinct antemedial line; a speck at end of cell; a waved postmedial line slightly excurved beyond cell, and with a series of specks beyond it on the veins, and a dark patch between veins 3 and 4; an indistinct, pale, waved submarginal line, with dark patches inside it. Hind wing with slightly waved curved postmedial line, and diffused lunulate submarginal line; both wings with marginal

series of black specks. Underside with diffused submarginal fuscous band.

Hab. Sikhim; Khásis. *Exp.*, ♂ 58, ♀ 70 millim.

3475. **Medasina similis,** *Moore, Lep. Atk.* p. 235; *C. & S.* no. 3266.
Medasina persimilis, *Moore, Lep. Atk.* p. 236; *C. & S.* no. 3265.

♂. Differs from *mauraria* in having a broad pale rufous fascia from base to apex of fore wing, with black strigæ on costa and occupying one-third of the wing; a pale patch beyond the medial part of the submarginal line. Hind wing with the base pale rufous; the outer half less suffused with fuscous.

The form *persimilis* has the costa of fore wing less striated.

Hab. Sikhim; Khásis. *Exp.* 68 millim.

3476. **Medasina interruptaria,** *Moore, P. Z. S.* 1867, p. 626; *C. & S.* no. 3263.

♀. Differs from *similis* in the pale costal fascia of fore wing being much more striated with fuscous; the pale patch beyond the submarginal line reduced. Hind wing with no submarginal line. Underside without the pale marginal patches.

Hab. Sikhim. *Exp.* 64 millim.

3477. **Medasina dissimilis,** *Moore, Lep. Atk.* p. 235; *C. & S.* no. 3261.
Deinotrichia cervina, *Warr. P. Z. S.* 1893, p. 419.

♂. Differs from *interruptaria* in having no trace of the pale fascia on fore wing; an antemedial sinuous black line arising from a black blotch on costa; a medial blotch with a spot below it on discocellulars; the postmedial line arising from a black spot on costa. Hind wing paler. Underside with the ground-colour very pale.

Hab. Sikhim. *Exp.* 62 millim.

3478. **Medasina quadrinotata,** *Warr. P. Z. S.* 1893, p. 417.

♂. Differs from *similis* in the ground-colour being brownish white. Fore wing with the pale fascia reduced by the costa being broadly irrorated with fuscous, the lines being marked on the irrorated area. Hind wing with the outer margin more produced at vein 7; the postmedial line with two dentitions below costa. Underside with the postmedial line and submarginal band more prominent.

Hab. Sikhim. *Exp.* 38 millim.

3479. **Medasina fratercula,** *Moore, Lep. Atk.* p. 236; *C. & S.* no. 3262.

♂. Differs from *similis* in being much brighter rufous. Fore wing with the costal fascia reddish ochreous; an oblique subbasal black line below it; a speck at end of cell; the postmedial line

more prominent and much less oblique. Hind wing with the postmedial line more prominent. Both wings with the submarginal line replaced by a series of white specks, and with a black mark below vein 6.

Hab. Sikhim. *Exp.* 52 millim.

3480. **Medasina basistrigaria,** *Moore, P. Z. S.* 1867, p. 626; *C. & S* no. 3277.

♂. Head, thorax, and abdomen dark red-brown; wings striated with fuscous. Fore wing with the basal and outer areas dark red-brown; the medial area pale and bounded by slightly waved black ante- and postmedial lines; a speck at end of cell and spot on costa above it; an irregularly sinuous pale submarginal line. Hind wing with the basal area dark and bounded by an indistinct antemedial line; the outer two-thirds pale, with a crenulate postmedial line and some brown suffusion on apical and inner parts of margin, traversed by the interrupted pale submarginal line; a dark and pale marginal line, the margin being produced and reddish at veins 3 and 4. Underside ochreous; the marginal area of fore wing suffused with fuscous, except at middle and outer angle.

Hab. Sikhim; Khásis. *Exp.* 46 millim.

3481. **Medasina lampasaria,** *Swinh. MS.*

♂. Reddish brown, almost entirely suffused and striated with black. Fore wing with the ground-colour of the medial area whitish, forming a band, which expands on costal half of wing, bears a black cell-spot, and is edged by a postmedial line incurved below vein 5.

Hab. Khásis. *Exp.* 40 millim.

3482. **Medasina vagans,** *Moore, Lep. Atk.* p. 242, pl. 8, fig. 16; *C. & S.* no. 3342.

Darisa interlata, *Warr. Nov. Zool.* p. 433.

Pale olive-grey brown, irrorated with black. Fore wing with double obliquely waved antemedial line, expanding into black patches at costa; a spot at end of cell; an indistinct medial line arising from a black patch at costa and incurved below vein 5; a double waved postmedial line prominent at costa and inner margin, the medial part almost obsolete, the costal part oblique; a waved grey submarginal line arising from a black patch on costa; a series of marginal specks. Hind wing with prominent cell-spot, curved postmedial series of specks, submarginal series of fuscous and grey lunules, and marginal series of black lunules. Underside with prominent cell-spots; fore wing with broad marginal band, with patches of the ground-colour at costa, middle and inner margin; hind wing with large submarginal black patch on costa.

Hab. Sikhim; Khásis. *Exp.*, ♂ 54, ♀ 62 millim.

3483. **Medasina livida**, *Warr. P. Z. S.* 1893, p. 419.

♂. Leaden grey, suffused and irrorated with black. Fore wing with some rufous suffusion on inner medial area; a double waved antemedial line angled below the costa; a speck at end of cell; traces of a medial line angled below costa; a double crenulate postmedial line, and traces of a sinuous submarginal line arising from a black blotch on costa. Hind wing with traces of a sub-basal line; a speck at end of cell; double crenulate postmedial line, and traces of a submarginal line; both wings with a series of black marginal lunules. Underside leaden fuscous, with indistinct cell-spots and postmedial line; a white patch at apex of each wing.

Hab. Sikhim. *Exp.* 64 millim.

3484. **Medasina contaminata**, *Moore, Lep. Atk.* p. 246; *C. & S.* no. 3356.

White, slightly irrorated with fuscous. Fore wing with fuscous striæ on the costa; a sinuous antemedial black band narrowing to inner margin, with a spot beyond it on median nervure; a triangular spot on middle of costa conjoined to a spot on discocellulars; a curved crenulate postmedial orange line, blackish at costa, with ferruginous suffusion from it to the ill-defined submarginal sinuous black line and extending to the margin below apex and at outer angle. Hind wing more thickly irrorated; an indistinct crenulate postmedial line; the marginal area suffused with ferruginous, and with an indistinct waved white submarginal line. Both wings with crenulate marginal black line.

Hab. Sikhim. *Exp.*, ♂ 56, ♀ 66 millim.

✓3485. **Medasina albidaria**, *Wlk. Cat.* xxxv, p. 1582; *C. & S.* no. 3310.

White, irrorated and spotted with very pale brown; branches of antennæ blackish; palpi black at sides; legs spotted with black. Fore wing with indistinct waved antemedial, medial, postmedial, and submarginal fuscous lines, arising from blackish patches on the costa, the postmedial line with a black mark between veins 3 and 4. Hind wing with indistinct waved antemedial, medial, and submarginal lines; a speck at end of cell; both wings with a marginal series of black specks. Underside with black cell-spot and three lunulate marks below apex of fore wing.

Hab. Simla; Dharmsála; Sikhim; Khásis. *Exp.* 60–64 millim.

3486. **Medasina obliterata**, *Moore, P. Z. S.* 1867, p. 630; *C. & S.* no. 3328.

White; head and thorax suffused with rufous; abdomen orange towards extremity, and with two black specks on 2nd segment. Fore wing slightly irrorated with rufous; the costa suffused with rufous, also the outer area except at middle; indistinct double waved rufous ante- and postmedial lines; traces of a single waved medial line and crenulate white submarginal line. Hind wing with double

crenulate postmedial line and single white submarginal line, with patches of rufous-brown suffusion inside and beyond it. Both wings with marginal series of black specks. Underside with black cell-spots and large black patches at apex and outer angle of each wing.

Hab. Nepal; Sikhim. *Exp.* 58 millim.

3487. **Medasina albidior**, n. sp.

♀. Differs from *obliterata* in having no rufous suffusion; the head black; abdomen without the black specks, and only orange at extremity. Fore wing with the inner and outer areas suffused and irrorated with fuscous grey, and with a few fulvous scales, especially on the veins; the antemedial, medial, and postmedial lines single, indistinct, and arising from black spots on the costa. Hind wing irrorated and slightly suffused with fuscous grey, with indistinct antemedial line and blackish cell-spot; the postmedial line single and reduced to a series of specks. Underside with postmedial series of black specks; hind wing with the upper patch smaller and subapical, the lower patch obsolete.

Hab. Nágas, 6000 feet (*Doherty*). *Exp.* 78 millim. Type in coll. Elwes.

Genus **ARICHANNA**.

Arichanna, *Moore, P. Z. S.* 1867, p. 658.
Rhyparia, *Hübn. Verz.* p. 305 (? 1818), præocc.
Icterodes, *Butl. Ill. Het.* ii, p. ix (1878).
Paricterodes, *Warr. P. Z. S.* 1893, p. 389.

Type, *A. plagifera*, Wlk.

Range. Japan; China; Himalayas; Khásis; Nágas.

Palpi porrect, reaching beyond the frons, and clothed with long hair; wings with the margins not crenulate. Fore wing usually with fovea; vein 3 from near angle of cell; 7, 8, 9 stalked from upper angle; 10 and 11 free. Hind wing with vein 3 from near angle of cell.

SECT. I. Antennæ of male fasciculate; hind tibiæ not dilated.

3488. **Arichanna tramesata**, *Moore, P. Z. S.* 1867, p. 658, pl. 33, fig. 2; *C. & S.* no. 3835.

♂. Pale ochreous, irrorated with fuscous and black. Fore wing thickly irrorated and striated with black; the veins streaked with fulvous; indistinct slightly sinuous antemedial, postmedial, and submarginal white lines, the postmedial forking towards apex; a black patch at end of cell. Hind wing irrorated with fuscous; a fuscous spot at end of cell, and series of black specks on the margin.

Hab. Sikhim; Khásis. *Exp.* 40 millim.

3489. **Arichanna rubrivena,** *Warr. P. Z. S.* 1893, p. 424, pl. 30, fig. 13.

♂. Differs from *tramesata* in the ground-colour being fuscous. Fore wing with the veins dark red-brown; no antemedial line; the whitish postmedial line nearer the margin and with a double black line interrupted by the red-streaked veins inside it; an indistinct submarginal series of white specks.

Hab. Sikhim. *Exp.* 44 millim.

3490. **Arichanna violacea,** *Warr. P. Z. S.* 1893, p. 391, pl. 30, fig. 12.
Micrabraxas subolivacea, *Warr. P. Z. S.* 1893, p. 426.

Differs from *rubrivena* in the ground-colour of the fore wing being darker and with patches of purplish-grey scales in the interspaces between the lines; no rufous on the veins, but some olive suffusion on median nervure and between veins 2 and 4.

Hab. Sikhim, 10,000 feet. *Exp.*, ♂ 40, ♀ 42 millim.

3491. **Arichanna transfasciata,** *Warr. P. Z. S.* 1893, p. 425.

♂. Head, thorax, and abdomen whitish and brown. Fore wing olive-brown, slightly striated with black; a whitish streak from base on median nervure and vein 4 to outer margin; antemedial and postmedial black-edged white bands, the latter almost joined by an oblique streak from apex; a maculate sinuous white submarginal line bent out to the margin at outer angle; a black cell-spot, with a crenulate line just beyond it. Hind wing orange-yellow, irrorated with black; an indistinct dark cell-spot and postmedial line, with traces of whitish band on its outer edge; a submarginal dark spot above vein 4, and whitish line near anal angle.

Hab. Sikhim; Khásis; Nágas. *Exp.* 50 millim.

3492. **Arichanna marginata,** *Warr. P. Z. S.* 1893, p. 423.
Arichanna subalbida, *Warr. P. Z. S.* 1893, p. 425, pl. 32, fig. 15.

Yellow-green, irrorated with black. Fore wing with a black spot at base; an indistinct double series of antemedial black spots, followed by an ill-defined whitish medial band enclosing a green patch at end of cell; an indistinct crenulate black postmedial line incurved at lower angle of cell; traces of a waved white submarginal band, enclosing a black spot above vein 4; a marginal series of specks. Hind wing ochreous, with cell-spot, slightly waved postmedial line, and broad diffused marginal band.

The form *subalbida* has the white bands of fore wing almost obsolete and the hind wing whiter, with the marginal band reduced to a submarginal line.

Hab. Dharmsála; Sikhim; Bhután; Khásis; Nágas. *Exp.* 48 millim.

3493. **Arichanna ramosa,** *Wlk. Cat.* xxxv, p. 1688; *C. & S.* no. 3834.

Head and thorax pale olive or fulvous; abdomen whitish. Fore

wing black, irrorated with white and ochreous; the costa much irrorated with ochreous; an obsolescent antemedial white line; a medial white band forking from median nervure to costa; an ochreous fascia from origin of vein 2 to outer margin below vein 4; a postmedial white band forking towards apex; a sinuous submarginal series of white specks. Hind wing white, slightly irrorated with fuscous; a dark spot at end of cell, and postmedial and submarginal maculate bands; a marginal series of black striæ.

Hab. Sikhim. *Exp.* 46 millim.

3494. **Arichanna biquadrata,** *Warr. P. Z. S.* 1893, p. 423.

Differs from *ramosa* in the head, thorax, and abdomen being darker. Fore wing with the ground-colour fuscous brown, striated with black; some whitish towards inner margin; a double maculate antemedial band; large patches at and beyond end of cell; a double postmedial series of patches; a patch on costa before apex; a submarginal series of white specks. Hind wing very pale brownish grey; the underside thickly striated; a cell-spot and postmedial line.

Hab. Sikhim. *Exp.* 44 millim.

3495. **Arichanna albovittata,** *Moore, Lep. Atk.* p. 274; *C. & S.* no. 3829.

Differs from *ramosa* in the fore wing being pale brown, with dark striæ and very ill-defined ante- and postmedial dark bands; the white markings consist of a broad postmedial band, sending an oblique streak to the apex, and an indistinct submarginal line. Hind wing entirely white on upperside, with cell-spot and lunulate postmedial line on underside.

Hab. Sikhim. *Exp.*, ♂ 52, ♀ 56 millim.

SECT. II. (*Arichanna*). Antennæ of male serrate and fasciculate; hind tibiæ not dilated; fore wing without fovea.

3496. **Arichanna plagifera,** *Wlk. Cat.* xxxv, p. 1686; *C. & S.* no. 3833.

Differs from *biquadrata* in being yellow-brown. Fore wing with the double series of patches less distinct; some white scales on medial area and beyond the postmedial patches; a submarginal series of patches and no subapical patch. Hind wing with indistinct cell-spots, postmedial line, and marginal band.

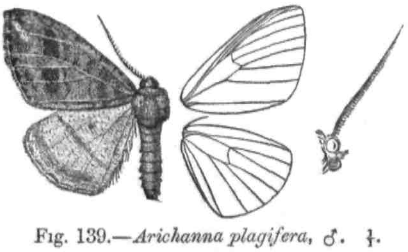

Fig. 139.—*Arichanna plagifera*, ♂. ½.

Hab. Sikhim. *Exp.* 46 millim.

SECT. III. (*Icterodes*). Antennæ of male bipectinated to three-fourths length, with short stiff branches.

A. *Hind tibiæ of male dilated with a fold and expansile tuft of hair.*

3497. **Arichanna furcifera,** *Moore, Lep. Atk.* p. 275; *C. & S.* no. 3830.

♂. Olive-brown, irrorated and suffused with black. Fore wing with a white speck at base; a broad medial white band enclosing a patch of the ground-colour on costa, with its middle and edges black; an indistinct submarginal white line sending a fork to apex. Hind wing grey, with slight fuscous irroration; an indistinct medial and lunulate submarginal line; cilia ochreous.

Hab. Sikhim; Khásis. *Exp.* 54 millim.

3498. **Arichanna tenebraria,** *Moore, P. Z. S.* 1867, p. 652; *C. & S.* no. 3742.

Paricterodes luciguttata, *Warr. P. Z. S.* 1893, p. 390.
Paricterodes commixta, *Warr. P. Z. S.* 1893, p. 390.

♂. Head and thorax olive-green and fuscous; a white tuft on metathorax; abdomen paler. Fore wing olive-green, irrorated with fuscous and white; traces of suffused dark antemedial, medial, postmedial, and submarginal bands, the medial and postmedial approaching each other below cell. Hind wing whitish, irrorated with fuscous; a cell-spot, postmedial and submarginal lines.

Tenebraria is larger than *luciguttata*; *commixta* has the fore wing darker; the ground-colour of hind wing brownish, with the postmedial band more prominent.

Hab. Sikhim; Khásis. *Exp.*, ♂ 50–60, ♀ 65 millim.

3499. **Arichanna lapsariata,** *Wlk. Cat.* xxiv, p. 1121; *C. & S.* no. 3722.

Abraxas conspersa, *Butl. A. M. N. H.* (5) vi, p. 225; *id. Ill. Het.* vi, pl. 119, fig. 10; *C. & S.* no. 3721.
Abraxas consocia, *Butl. A. M. N. H.* (5) vi, p. 226; *id. Ill. Het.* vi, pl. 119, fig. 11; *C. & S.* no. 3720.

Head, thorax, and abdomen orange, spotted with black. Fore wing grey, with seven ill-defined and confluent black-brown maculate bands and a few scattered smaller spots; the base yellowish, with black spots and a black patch on costa; a white postmedial band between the fifth and sixth maculate bands. Hind wing white, with a spot at end of cell and one beyond it; three medial spots on inner area; a submarginal series and numerous small conjoined spots on the margin.

The Sikhim forms *conspersa* and *consocia* have the fore wing thickly irrorated with small spots and no postmedial white band; *conspersa* is a small form with few dark specks on the hind wing, *consocia* a large form with numerous specks.

Hab. Sikhim; Khásis. *Exp.* 62–88 millim.

3500. **Arichanna regularis,** *Warr. P. Z. S.* 1893, p. 392.

♂. Differs from typical *lapsariata* in the ground-colour of the

fore wing being white; the spots of the bands smaller, rounded, and much less confluent; no small scattered spots. Hind wing with an antemedial series of three spots; a large spot at end of cell; two postmedial series; the submarginal series complete.
Hab. Nágas. *Exp.* 74 millim.

3501. **Arichanna maculata,** *Moore, P. Z. S.* 1867, p. 658; *Waterh. Aid*, pl. 184, fig. 6; *C. & S.* no. 3831.

Dark brown; head and thorax marked with white; abdomen banded with white. Fore wing with a few scattered white specks; a white basal, two antemedial, three postmedial, and three submarginal patches; cilia chequered white and dark. Hind wing white, with antemedial brown line; speck at end of cell; curved postmedial line; irregular submarginal line angled inwards to the postmedial line and outwards to the margin on vein 4; a crenulate marginal line.
Hab. Sikhim. *Exp.* 46 millim.

3502. **Arichanna hamiltonia,** *Swinh. Trans. Ent. Soc.* 1892, p. 17, pl. 1, fig. 5.

Differs from *transectata* in the abdomen being banded with orange; fore wing with the ground-colour purplish grey; a postmedial white band between the series of spots; hind wing with no fuscous on inner area.
Hab. Khásis; Nágas. *Exp.*, ♂ 60, ♀ 70 millim.

3503. **Arichanna transectata,** *Wlk. Cat.* xxiv, p. 1112; *C. & S.* no. 3712.

Head, thorax, and abdomen black. Fore wing olive-yellow, almost entirely covered by fuscous suffusion and by eight series of black spots. Hind wing orange, with fuscous suffusion on basal inner area; a black spot at end of cell; an obsolescent medial series, and submarginal and marginal series of large spots.

Walker's type consists of the head, thorax, and fore wings of a male attached to the abdomen and hind wings of a female probably of a different species, but I apply the name to the well-known Himalayan form.
Hab. Chamba; Kumaun; Sikhim. *Exp.* 56–62 millim.

3504. **Arichanna sparsa,** *Butl. Entom.* xxiii, p. 316.
Icterodes conspersa, *Butl. Ill. Het.* vii, p. 113, pl. 137, fig. 6 (præocc.).

Differs from *transectata* in the abdomen being grey. Fore wing with the ground-colour grey; the costa, inner margin, and veins yellowish, irrorated with numerous black specks; the maculate bands reduced to double antemedial, postmedial, and marginal bands. Hind wing with the base grey and the spots smaller.
Hab. Dharmsála. *Exp.* 52 millim.

3505. **Arichanna jaguarinaria,** *Oberth. Et. Ent.* vi p. 17, pl. ix, fig. 1.

Grey; some black on tegulæ; abdomen with a series of black lateral spots. Fore wing with two subbasal black spots; an antemedial oblique series of four spots; a spot at end of cell; a postmedial curved series of seven spots; a submarginal series of nine spots. Hind wing whitish, with a spot at end of cell and a broad marginal orange band with seven black spots on its inner edge.

The typical Japanese and Chinese form has a medial series of spots on hind wing, with the marginal orange band extending to them.

Hab. Japan; China; Nágas. *Exp.*, ♂ 58, ♀ 64 millim.

B. *Hind tibiæ not dilated.*

3506. **Arichanna ? subænescens,** *Warr. P. Z. S.* 1893, p. 426.

Head, thorax, and abdomen black-brown; wings with the basal two-thirds black-brown, the outer area fulvous. Fore wing with oblique whitish antemedial line, slightly angled on median nervure; a black line on discocellulars; a slightly sinuous curved whitish postmedial line; the outer area striated with black and with an ill-defined subapical patch. Hind wing with the irroration on outer area slight towards apex, thick near anal angle.

Hab. Sikhim, 10,000 feet. *Exp.* 48 millim.

Genus EREBOMORPHA.

Erebomorpha, *Wlk. Cat.* xxi, p. 494 (1860).
Vindusara, *Moore, P. Z. S.* 1867, p. 653.

Type, *E. fulgurita*, Wlk.

Range. Japan; Sikhim; Khásis.

Palpi porrect and fringed with hair below, the 3rd joint minute; antennæ of male bipectinated to near apex; hind tibiæ very long and much dilated with a fold containing a ridge of hair, the spurs short; abdomen hairy below and with a large tuft near base. Fore wing with the costa arched towards apex; vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 and 11 stalked. Hind wing with vein 3 usually from angle of cell.

SECT. I. Hind wing with the outer margin produced to points at veins 4, 6, and 7.

3507. **Erebomorpha fulgurita,** *Wlk. Cat.* xxi, p. 495; *C. & S.* no. 3187.
Erebomorpha xanthosoma, *Feld. Reis. Nov.* pl. 126, fig. 17; *C. & S.* no. 3189.

Brown, thickly striated with black; metathorax with a broad white band; abdomen orange, with black marks on dorsum. Fore wing with a broad white fascia from base of inner margin to apex, towards which it narrows and is brownish; white medial and submarginal lines from the fascia to inner margin. Hind wing with a postmedial black line, angled and obsolescent at vein 6, with a

broad white band inside it and a pale fulvous patch beyond it on costal area; a submarginal white line from vein 4 to anal angle, and often a marginal line from apex to vein 4 and patch at vein 7.

Hab. Sikhim; Khásis. *Exp.* 100 millim.

SECT. II. Hind wing with the outer margin produced to points at veins 4 and 7; vein 3 from before angle of cell.

3508. **Erebomorpha fulguraria**, *Wlk. Cat.* xxi, p. 495; *Butl. Ill. Het.* vi, pl. 120, fig. 2; *C. & S.* no. 3186.

♂. Black-brown, striated with deep black; antennæ fulvous; a white band on 1st segment of abdomen. Fore wing with a narrow white band from middle of costa running out to a very acute angle at vein 2, where it joins a nearly straight postmedial line, then to

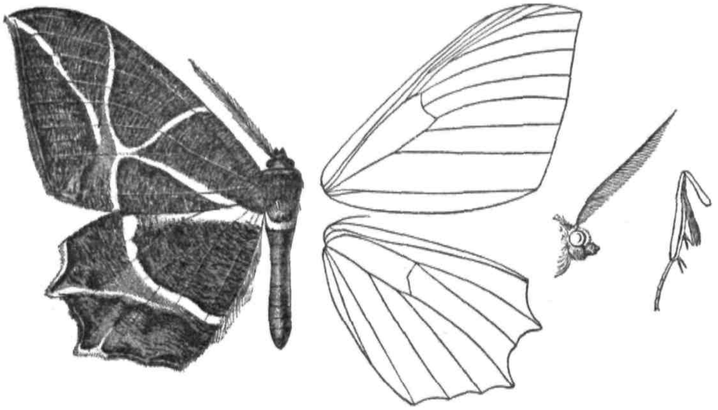

Fig. 140.—*Erebomorpha fulguraria*, ♂. ½.

near base of inner margin; a white line from apex to vein 3, where it ends in a red patch on the postmedial line; cilia with white spot at middle. Hind wing with a white fascia from base along costa to a postmedial curved band; a line from margin at vein 7 to vein 2 near the postmedial band, an olive patch in the angle of the two up to vein 6, and a red line outside that part of the oblique line; an olive medial patch on the margin; cilia white from the apex to vein 7 and below vein 4.

Hab. Sikhim; Khásis. *Exp.* 96 millim.

SECT. III. Hind wing with the outer margin excurved between veins 3 and 6.

3509. **Erebomorpha compositata**, *Guen. Phal.* ii, p. 207; *Moore, P. Z. S.* 1867, pl. 32, fig. 6; *C. & S.* no. 3718.

Head, collar, and abdomen orange with black spots; thorax white. Fore wing white, with grey basal and antemedial patches

on costal area; a spot at lower angle of cell, often conjoined to the costal patch; a medial band running out to an angle at vein 3, then with some black and yellow marks on it to inner margin of hind wing near base; both wings with a submarginal band with some spots inside it on costal half of each wing, arising from a large patch with white spot on it at apex of fore wing, touching the median band at vein 3, and with yellow patches with black lunules on them below vein 6 of each wing, on hind wing forming a large medial marginal patch and forking towards anal angle; some striæ on margin of both wings.

Hab. Sikhim; Khásis. *Exp.* 74–80 millim.

SECT. IV. Hind wing with the outer margin excurved between veins 6 and 7.

3510. **Erebomorpha metachromata**, *Wlk. Cat.* xxiv, p. 1122; *Butl. Ill. Het.* vi, pl. 120, fig. 1; *C. & S.* no. 3719.

Head black, the vertex fulvous; thorax and abdomen grey, the latter orange and black towards extremity. Fore wing white, more or less completely covered with grey spots and blotches; a postmedial band with a fulvous line on it slightly curved below costa and oblique towards inner margin; a white area on each side of the band and on inner part of outer area. Hind wing white, with grey spot on inner area before middle; a spot at end of cell; a broad marginal band of yellow blotches with grey edges and black lunules on them; a large marginal black spot below vein 7, and white marks towards anal angle.

Hab. Sikhim. *Exp.* 64 millim.

Genus ABRAXAS.

Abraxas, *Leach, Edinb. Encycl.* ix, p. 134 (1815).
Ligdia, *Guen. Phal.* ii, p. 209 (1857).
Potera, *Moore, P. Z. S.* 1878, p. 852.
Heterabraxas, *Warr. Nov. Zool.* p. 416 (1894).
Omophyseta, *Warr. Nov. Zool.* p. 414.

Type, *A. grossulataria*, Linn., from Europe.

Range. Palæarctic and Oriental regions.

Palpi porrect and roughly scaled; hind tibiæ of male dilated with a fold containing a tuft of hair. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked; 10 and 11 stalked, 11 becoming coincident with 12, or apparently absent. Hind wing with vein 3 from before angle of cell.

SECT. I. (*Heterabraxas*). Palpi moderate; antennæ bipectinated to three-fourths length in both sexes, the branches longest in male; fore wing with a slight scar representing the fovea; vein 11 apparently absent.

3511. **Abraxas pardaria**, *Moore, P. Z. S.* 1867, p. 652; *C. & S.* no. 3738.

♂. Head black; thorax orange, marked with black; abdomen

white, tinged with orange towards extremity and with paired black dorsal and lateral spots. Fore wing white, with a patch of raised golden-brown scales on inner area at base; two patches at middle and a small patch near outer angle; some leaden-grey spots on basal area; two irregular medial series; a submarginal series interrupted at middle; confluent spots and strigæ on margin and a few strigæ on costa and outer area. Hind wing white, with two leaden antemedial spots, one at end of cell, medial and submarginal series, the last with the spot on vein 4 small; a marginal series of spots and a few strigæ on outer area.

Hab. Sikhim. *Exp.* 64 millim.

3512. **Abraxas fulvosparsa**, n. sp.

Differs from *pardaria* in the abdomen having large black dorsal patches. Fore wing with the basal area orange, spotted with black; a small fulvous spot on vein 1 before the medial spot. Hind wing with no antemedial spots; the inner margin with fulvous spots at middle and anal angle; no striæ on either wing.

Hab. Sikhim, 3000 feet (*Möller*). *Exp.*, ♂ 58, ♀ 62 millim. Type, ♂ in coll. Elwes, ♀ in coll. B. M.

3513. **Abraxas spontaneata**, *Wlk. Cat.* xxiv, p. 1120; *C. & S.* no. 3741.

Differs from *fulvosparsa* in the abdomen having paired dorsal patches. Fore wing with the black-spotted basal patch small; two large olive fulvous patches occupying the whole inner area except at outer angle; two antemedial leaden spots on costa, one on median nervure, and a large patch at end of cell; a submarginal series of small spots, the spot on costa large; the outer area wholly fuscous, except an irregular patch at middle. Hind wing with olive-fulvous spot on middle of inner margin; a leaden spot at end of cell; traces of a postmedial series of specks; a marginal maculate band.

Hab. Sikhim; Khásis. *Exp.*, ♂ 64, ♀ 66 millim.

3514. **Abraxas fasciata**, *Swinh. Trans. Ent. Soc.* 1894, p. 211, pl. ii, fig. 11.

♂. Head fuscous, the vertex whitish; thorax fuscous and white; the collar tinged with orange; abdomen orange, with paired dorsal black spots; wings white. Fore wing with the greater part of the base covered by an olive-fulvous patch; leaden-grey patches in and at end of cell; a broad postmedial grey band curved below costa, with a fulvous patch on it at inner margin and a spot inside the band; submarginal and marginal series of conjoined grey patches. Hind wing with cell-speck; broad curved grey postmedial band; submarginal and marginal series of conjoined grey patches.

Hab. Sikhim; Khásis. *Exp.* 50 millim.

SECT. II. Palpi slighter; fore wing with no fovea; vein 11 stalked with 10, and becoming coincident with 12.

A. *Antennæ thickened by serrations, but without fascicles of cilia; hind wing of male with the costa produced upwards into a lobe, in the female similar to the male of the next group.*

3515. **Abraxas lobata**, n. sp.

Similar in markings to the small specimens of the form *intermedia* of *sylvata*; the fulvous patches darker, with the silvery markings on them lunulate.

Hab. Simla (*Harford*). *Exp.*, ♂ 48, ♀ 54 millim. Type in B. M.

B. (Abraxas). *Antennæ of male somewhat thickened by appressed serrations and with fascicles of cilia; hind wing with the costa curved over, but not or hardly lobed.*

3516. **Abraxas sylvata**, *Scop. Ent. Carn.* p. 220.
Phalæna ulmata, *Fabr. Syst. Ent.* p. 632.
Geometra pantherata, *Hübn. Beitr.* ii, 2, 47, pl. 2 N.
Zerene leopardina, *Koll. Hügel's Kaschmir*, iv, p. 490; *C. & S.* no. 3736.
Abraxas intermedia, *Warr. P. Z. S.* 1888, p. 324; *C. & S.* no. 3733 A.
Abraxas illuminata, *Warr. Nov. Zool.* p. 417.
Abraxas paucinotata, *Warr. Nov. Zool.* p. 417.
Abraxas suffusa, *Warr. Nov. Zool.* p. 417.
Abraxas disrupta, *Warr. Nov. Zool.* p. 418.
Abraxas determinata, *Warr. Nov. Zool.* p. 418.
Abraxas symmetrica, *Warr. Nov. Zool.* p. 418.
Abraxas capitata, *Warr. Nov. Zool.* p 414.

Head, thorax, and abdomen orange, spotted with black. Fore wing white, with olive-fulvous patch at base, and another with some silvery marks on it on inner margin beyond middle; a grey patch with a dark mark on it at end of cell extending to the costa; some grey spots below the cell and often in the cell and on the costa; a

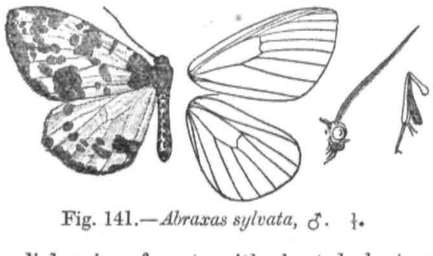

Fig. 141.—*Abraxas sylvata*, ♂. $\frac{1}{1}$.

curved postmedial series of spots with short dark streaks on them at the veins and often other spots beyond them; some spots on the margin expanding into a patch at middle. Hind wing white, with a more or less complete antemedial series of spots; a postmedial series of spots with fulvous streaks on them at the veins, often

Semilugens is a rather thickly-spotted form, with the orange on the band almost obsolete.

Hab. Kumaun; Sikhim. *Exp.*, ♂ 40, ♀ 43 millim.

3525. **Abraxas alpestris**, *Warr. P. Z. S.* 1893, p. 394, pl. 30, fig. 15.

Differs from *picaria* in the fore wing being slightly yellower and without orange on the bands, which are more prominent. Hind wing with the basal two-thirds slightly spotted; a prominent cell-spot and curved postmedial band.

Hab. Sikhim, 10,000 feet. *Exp.* 30 millim.

3526. **Abraxas irrorata**, *Moore, P. Z. S.* 1867, p. 652; *C. & S.* no. 3734.

Pale yellow, irrorated with black; abdomen with a dorsal and two pairs of lateral black spots. Fore wing with traces of orange antemedial band angled in cell, and oblique dark medial and postmedial bands. Hind wing paler, in some specimens with hardly any specks; a spot at end of cell and indistinct postmedial series of specks, with some orange at inner margin,

Hab. Kumaun; Sikhim. *Exp.* 42 millim.

3527. **Abraxas luteolaria**, *Swinh. P. Z. S.* 1889, p. 430; *Hmpsn. Ill. Het.* viii, pl. 152, fig. 3.
Abraxas germana, *Swinh. Trans. Ent. Soc.* 1891, p. 143.

Differs from *irrorata* in being much brighter yellow and more thickly irrorated with black; fore wing with no antemedial orange band; the ante- and postmedial dark bands and the postmedial band of hind wing prominent in *luteolaria*, obsolescent in *germana*.

One specimen is much suffused with fuscous.

Hab. Nilgiri plateau. *Exp.* 50 millim.

3528. **Abraxas poliaria**, *Swinh. P. Z. S.* 1889, p. 431; *Hmpsn. Ill. Het.* viii, pl. 152, fig. 5.
Abraxas crocearia, *Hmpsn. Ill. Het.* viii, p. 116, pl. 152, figs. 8, 17.

Ground-colour orange, almost entirely suffused with fuscous in the form *poliaria* in both sexes; in *crocearia* the orange is more developed, and becomes the dominant colour in the female. Fore wing with indistinct spot at end of cell; medial and submarginal lines, the latter sometimes crenulate. Hind wing with traces of medial and submarginal lines, strongly developed in the female *crocearia*.

Hab. Nilgiri plateau. *Exp.*, ♂ 46, ♀ 46–52 millim.

3529. **Abraxas diaphana**, *Warr. P. Z. S.* 1893, p. 393.

Differs from *irrorata* in the wings being entirely suffused with fuscous, so that there is hardly a trace of the yellow ground-colour on the markings.

Hab. Sikhim, 13,000 feet. *Exp.* 40 millim.

3530. **Abraxas fuscescens,** *Butl. P. Z. S.* 1886, p. 392, pl. 35, fig. 10; *C. & S.* no. 3731.
Abraxas irrula, *Hmpsn. Ill. Het.* viii, p. 115, pl. 152, fig. 1.
Abraxas adusta, *Hmpsn. Ill. Het.* viii, p. 115, pl. 152, figs. 6, 14.

Differs from *poliaria* in the ground-colour of the wings being brownish grey, thickly irrorated with black in *fuscescens=irrula*; whilst in the form *adusta*, from the Nilgiris, the fore wing is almost entirely suffused with brown, leaving some pale specks and a patch at base. Fore wing with traces of antemedial line, spot at end of cell, and two postmedial lines converging towards inner margin. Hind wing with spot at end of cell and postmedial line.

The markings become obliterated in the most diffused forms from the Nilgiris, some of which are fuscous in tone and difficult to separate from *poliaria*, except by the absence of the submarginal line of fore wing.

Hab. Kulu; Thundiáni, Punjab; Nilgiri plateau. *Exp.* 50 millim.

3531. **Abraxas sordida,** *Hmpsn. Ill. Het.* ix, p. 144, pl. 169, fig. 12.

♂. Brownish fuscous; head, thorax, and abdomen orange and black. Fore wing with ante- and postmedial white spots on the costa and medial band from below cell to inner margin. Hind wing with medial band from cell to inner margin; both wings with traces of submarginal white specks.

Hab. Ceylon. *Exp.* 46 millim.

3532. **Abraxas ostrina,** *Swinh. P. Z. S.* 1889, p. 431; *Hmpsn. Ill. Het.* viii, pl. 152, fig. 18.

Black; the head, thorax, and abdomen orange and black. Fore wing with irregular white blotches on the costa, and sometimes a medial spot on inner margin; traces of antemedial, medial, postmedial, and submarginal waved dark lines. Hind wing with medial white specks on inner margin, which may be developed into a complete black-spotted band, with a white speck beyond it.

Hab. Nilgiri plateau. *Exp.* 40–44 millim.

3533. **Abraxas ditritaria,** *Wlk. Cat.* xxiv, p. 1125; *Hmpsn. Ill. Het.* viii, pl. 152, fig. 21; *C. & S.* no. 3729.

Silvery blue-grey; head and abdomen orange and black. Fore wing with a few white specks; traces of antemedial, medial, and postmedial short dark streaks on the veins. Hind wing whitish, thickly irrorated with fuscous; a spot at end of cell and curved series of postmedial specks, which may be prominent or almost obsolete.

Hab. Nilgiri plateau. *Exp.*, ♂ 38–45, ♀ 50 millim.

3534. **Abraxas nigrivena,** *Warr. P. Z. S.* 1893, p. 394.

♂. Head, thorax, and abdomen orange, spotted with black; wings white, very slightly sullied with fuscous; the veins black.

Fore wing with an orange basal patch, with a black speck at base and others on its outer edge.

Hab. Sikhim. *Exp.* 35 millim.

3535. **Abraxas flaveata.**

Abraxas triseriata, *Warr. P. Z. S.* 1893, p. 394, pl. 31, fig. 9 (præocc.).

♂. Differs from *nigrivena* in the wings being pale straw-colour; an *indistinct medial band of black scales; a submarginal series of* black specks on the veins; fore wing with the basal orange patch rather larger.

Hab. Sikhim. *Exp.* 44 millim.

3536. **Abraxas etridoides,** n. sp.

♂. Antennæ black; palpi orange, the 3rd joint black. Head black, spotted with orange; thorax and abdomen black above, white below; tegulæ black and orange. Fore wing white; the costa and area from the cell to outer margin black; an orange subapical elongate patch, widest towards the costa; the outer edge of the white area rather irregular. Hind wing white, with a rather broad marginal black band with dentate inner edge. Under-*side: fore wing as above, but with an additional orange streak on* outer margin below apex; hind wing uniform pale yellow, with a black mark on the middle of the discocellulars, and the short black streaks on the nervules halfway between the cell and outer margin so characteristic of *Abraxas.*

A beautiful mimic of *Teracolus etrida*, which is very common in the same district.

Hab. Kodaikánal, Palni Hills (*Elwes*). *Exp.* 32 millim. Type in coll. Druce.

3537. **Abraxas triseriata,** *Herr.-Schäffer, Samml. aussereur. Schmett.* fig. 322.

Potera marginata, *Moore, P. Z. S.* 1878, p. 852; *C. & S.* no. 3747.

Head, thorax, and abdomen orange and black; wings white, with black markings. Fore wing with two irregular subbasal bands, the first reaching vein 1, the second the median nervure; an irregular antemedial band excurved from the subcostal nervure to vein 1; a large patch at end of cell; the costa mostly black; dentate submarginal and marginal bands connected by a bar on vein 4; an irregular spot at outer angle. Hind wing with ante-medial band, and dentate postmedial and marginal bands.

The form *marginata*, from Tenasserim, has all the black markings very much reduced, the transverse bands of each wing being only represented by a few black specks.

Hab. Tenasserim; Mergui; Java. *Exp.* 42–46 millim.

C. (Ligdia). *Antennæ of male ciliated.*

3538. **Abraxas adustata,** *Schiff. Wien. Verz.* p. 114; *Hübn. Samml. Eur. Schmett., Geom.* fig. 75.

Ligdia coctata, *Guen. Phal.* ii, p. 210; *C. & S.* no. 3751.

Melanippe efferata, *Wlk. Cat.* xxiv, p. 1274.

Melanippe restitutata, *Wlk. Cat.* xxv, p. 1297; *C. & S.* no. 3814.

Head and thorax clothed with black-brown and leaden scales; abdomen and wings yellowish white. Fore wing with the basal area brown, irrorated with leaden scales and narrowing to inner margin: traces of a medial series of specks; a postmedial brown band diffused outwards to the margin except at apex, its inner edge sinuous and with a lead-coloured line on edge of band; a waved white submarginal line with some grey inside it. Hind wing with dark speck at end of cell; some striæ on inner margin; a pale fuscous diffused postmedial band, with a crenulate white line on its outer edge.

Hab. Europe; N.W. Himalayas. *Exp.* 26–30 millim.

Genus **DILOPHODES**.

Dilophodes, *Warr. Nov. Zool.* p. 416 (1894).

Type, *D. elegans*, Butl.

Range. Japan; Khásis.

Palpi porrect, reaching just beyond the frons and fringed with hair below; antennæ of male with two pairs of minute fasciculated serrations to each joint; coxæ of each pair of legs tufted with black hair, hind tibia with a tuft from base and paired lateral tufts on the base of abdomen. Fore wing of male with fovea; vein 3 from before angle of cell; 7, 8, 9 stalked; 10 and 11 stalked, and connected by a bar with 7, 8, 9; 10 and 11 anastomose with 12, or 11 anastomoses with 12, then again with 10; 12 sometimes bifurcate at extremity. Hind wing with vein 3 from before angle of cell.

3539. **Dilophodes elegans**, *Butl. Ill. Het.* ii, p. 53, pl. 37, fig. 6.
Abraxas khasiana, *Swinh. Trans. Ent. Soc.* 1892, p. 17.

Head, thorax, and abdomen orange, spotted with black; wings white, with black markings. Fore wing with the spots covering the greater part of the surface, and consisting of basal spots, antemedial and medial bands, which coalesce below the cell, a curved postmedial series of smaller spots, and submarginal and marginal

Fig. 142.—*Dilophodes elegans*, ♂. ½.

series often coalescing and interrupted between veins 3 and 4. Hind wing with spot at end of cell; spots on inner margin; an interrupted submarginal series of large spots and marginal series of small spots.

The Khási race has the spots on the apical half of hind wing obsolete.

Hab. Japan; Khásis. *Exp.* 54 millim.

Genus ONELLABA.

Onellaba, *Wlk. Cat.* xxiv, p. 1139 (1862).

Type, *O. botydata*, Wlk.

Range. Peninsular India.

Palpi hairy, porrect, and not reaching beyond the frons, which is hairy; antennæ thickened and simple; hind tibiæ dilated, but without fold or tuft; wings long and narrow. Fore wing with the apex produced and outer margin oblique; vein 3 from before angle of cell; 7, 8, 9, 10 stalked; 11 free. Hind wing with vein 3 from before angle of cell.

3540. **Onellaba botydata,** *Wlk. Cat.* xxiv, p. 1140; *C. & S.* no. 3750; *Hmpsn. Ill. Het.* viii, pl. 156, fig. 29.

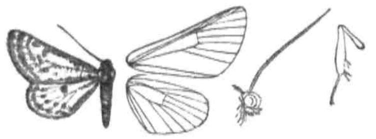

Fig. 143.—*Onellaba botydata*, ♂. ½.

Head, thorax, and abdomen orange, banded with black; wings white, with a few black specks, which on the costa and inner margin are conjoined into almost continuous fasciæ; a black spot at end of cell, and curved postmedial, submarginal, and marginal bands.

Hab. Ganjam; Canara; Nilgiri plateau. *Exp.* 32 millim.

Genus PERCNIA.

Percnia, *Guen. Phal.* ii, p. 216 (1857).
Culcula, *Moore, Lep. Atk.* p. 266 (1888).
Xenoplia, *Warr. Nov. Zool.* p. 415 (1894).

Type, *P. felinaria*, Guen.

Range. Japan; China; Himalayas; Assam; Burma.

Palpi porrect, reaching just beyond the frons and fringed with hair; hind tibiæ of male dilated with a fold containing a tuft of long hair. Fore wing long and narrow; male usually with fovea; vein 3 from before angle of cell; 5 more or less above angle of discocellulars; 7, 8, 9 stalked; 10 and 11 free, or 10 stalked with 7, 8, 9, or rarely with 11. Hind wing with vein 3 from before angle of cell.

Sect. I. Antennæ of male bipectinated to near apex; fore wing but slightly elongate; vein 5 from just above middle of discocellulars.

A. *Antennæ of male with long decumbent branches.*

3541. **Percnia ductaria,** *Wlk. Cat.* xxiv, p. 1111; *C. & S.* no. 3710.

Grey, slightly suffused with fuscous; head and thorax spotted

with black; abdomen with paired dorsal black spots. Fore wing with fulvous streaks on the veins near base and a postmedial series of short streaks; some black specks at base; two antemedial, one medial, two postmedial, one submarginal, and a marginal series of black spots; a spot at end of cell. Hind wing with two antemedial black spots on inner area; three medial spots; two postmedial series, with short fulvous streaks on the veins between them; submarginal and marginal series.

Hab. Sikhim. *Exp.* 60 millim.

B. (Xenoplia). *Antennæ of male with short stiff branches, of female with shorter branches; fore wing with vein* 10 *stalked with* 7, 8, 9.

3542. **Percnia coryneta**, *Swinh. Trans. Ent. Soc.* 1894, p. 213.

♂. Differs from *ductaria* in the wings being whiter; some yellow at base of fore wing, but none on the veins; the spots larger and deep black. Fore wing with no spots in the interspaces in the antemedial, medial, and postmedial series; the outer of the two postmedial series consisting of diffused patches, with a well-defined white band beyond them. Hind wing with only the cell-spot of the medial series; the postmedial series single, and with no specks in the interspaces.

Hab. Sikhim; Khásis; Nágas; Burma. *Exp.* 70 millim.

3543. **Percnia tincta**, n. sp.

♂. Differs from *ductaria* in the thorax being paler and not spotted with black; the wings tinged with pale rufous and without the postmedial series of fulvous streaks on the veins. Fore wing with the ante- and postmedial series of spots single, the latter with an indistinct band beyond it. Hind wing with an antemedial series of spots; only the cell-spot of the medial series; the postmedial series single, with a faint band beyond it.

Hab. Sikhim (*Möller*). *Exp.* 84 millim. Type in coll. Elwes.

3544. **Percnia froraria**, *Guen. Phal.* ii, p. 217; *C. & S.* no. 3715.
Percnia submissa, *Warr. P. Z. S.* 1893, p. 391.

Differs from *belluaria* (p. 308) in being smaller and paler.

Hab. Dharmsála; Simla; Sikhim. *Exp.* 48–56 millim.

3545. **Percnia maculata**, *Moore, P. Z. S.* 1867, p. 651; *C. & S.* no. 3711.
Zenoplia subfumida, *Warr. Nov. Zool.* p. 416.

♂. Differs from *foraria* in the interspaces of the fore wing being suffused with fuscous, except at base and outer area; the costal and outer areas irrorated with black.

Hab. Sikhim; Khásis. *Exp.* 42 millim.

SECT. II. Antennæ of male minutely serrate and fasciculate; fore wing more elongate.

A. *Fore wing with vein 5 from near upper angle of cell.*

a. *Male with fovea.*

a'. *Hind wing with vein 7 from well before angle of cell.*

3546. **Percnia felinaria**, *Guen. Phal.* ii, p. 216, pl. 19, fig. 1; *C. & S.* no. 3714.

Differs from *ductaria* in being much more suffused with fuscous; no fulvous streaks on the veins; the spots much larger. Fore wing with only one postmedial series. Hind wing with only the cell-spot of the three medial spots; a single postmedial series.
Hab. Sikhim; Khásis; Nágas. *Exp.* 88–90 millim.

b'. *Hind wing with vein 7 given off from, or from just before, angle of cell.*

3547. **Percnia belluaria**, *Guen. Phal.* ii, p. 217; *C. & S.* no. 3713.
Percnia guttata, *Feld. Reis. Nov.* pl. 130, fig. 15; *C. & S.* no. 3716.

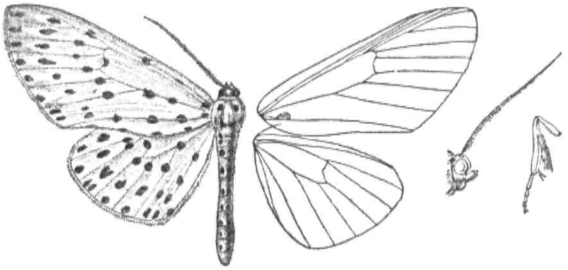

Fig. 144.—*Percnia belluaria*, ♂. ½.

Differs from *felinaria* in being paler, with the spots smaller.
Hab. Sikhim; Khásis. *Exp.* 72 millim.

3548. **Percnia interfusa**, *Warr. P. Z. S.* 1893, p. 392.

Differs from *belluaria* in the ground-colour being whiter; the head, thorax, and base of fore wing tinged with fulvous. Fore wing suffused with fuscous, chiefly on costal and outer areas; a dentate line beyond the postmedial series of spots. Hind wing with slight fuscous suffusion on marginal area, and traces of a dentate line beyond the postmedial series of spots.
Hab. Nágas. *Exp.* 58 millim.

b. (Culcula). *Male with no fovea.*

3549. **Percnia exanthemata**, *Moore, Lep. Atk.* p. 266; *C. & S.* no. 3723.

White; head and thorax suffused with olive-yellow; abdomen yellowish, the anal tuft orange. Fore wing with olive-yellow

subbasal patch with grey rings on it; some grey spots on and below costa; a large grey patch at end of cell; a postmedial oblique series of olive-yellow lunules and spots on grey patches, interrupted between veins 4 and 6 and ending at outer angle; numerous conjoined grey spots on marginal area. Hind wing with large grey patch at end of cell; a postmedial series of small spots becoming an olive-yellow line, with patches beyond it on a grey ground from vein 3 to anal angle; a few submarginal grey spots.

Hab. Sikhim; Khásis. *Exp.*, ♂ 64, ♀ 90 millim.

B. *Fore wing with vein 5 from slightly above middle of discocellulars;* 10 *and* 11 *stalked.*

3550. **Percnia giraffata**, *Guen. Phal.* ii, p. 205; *C. & S.* no. 3732.
Rhyparia grandaria, *Feld. Wien. Ent. Mon.* vi, p. 39; *id. Reis. Nov.* pl. 129, fig. 28.

♂. White; the collar and end of abdomen tinged with fulvous; head and thorax spotted with black; abdomen with paired dorsal and lateral spots and ventral bands. Fore wing with two subbasal spots; a large spot on costa; three obliquely placed antemedial spots, one at end of cell with spot on costa above it; a double postmedial series of irregular more or less confluent spots; submarginal and marginal series of spots, and some striæ on outer area. Hind wing with spot at base; three antemedial spots; postmedial, submarginal, and marginal series, and some striæ on outer area.

Other specimens have the spots of the postmedial band of fore wing disconnected; the marginal spots larger and conjoined into a band towards apex.

Hab. Japan; China; Sikhim; Burma. *Exp.* 85 millim.

Genus **OBEIDIA**.

Obeidia, *Wlk. Cat.* xxiv, p. 1139 (1862).

Type, *O. vagipardata*, Wlk., from Northern China.

Range. China; Sikhim; Nágas; Penang.

Palpi slender and reaching beyond the frons; antennæ of male thickened by appressed serrations; hind tibiæ with a fold containing a tuft of hair; abdomen long and slender; wings long and narrow; male with fovea. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 and 11 free. Hind wing with vein 3 from before angle of cell; the discocellulars angled; 7 from before upper angle.

SECT. I. Hind wing with vein 8 approximated to 7 to half length of cell.

3551. **Obeidia tigrata**, *Guen. Phal.* ii, p. 202; *C. & S.* no. 3743.
Obeidia fumosa, *Warr. P. Z. S.* 1893, p. 389.
Obeidia lucifera, *Swinh. A. M. N. H.* (6) xii, p. 153.

Fulvous orange, spotted with black. Fore wing with the spots

on basal and outer areas small and numerous; curved ante- and postmedial series of large spots and a spot at end of cell. Hind wing with small spots on basal and outer areas; a spot at end of cell and a curved postmedial series.

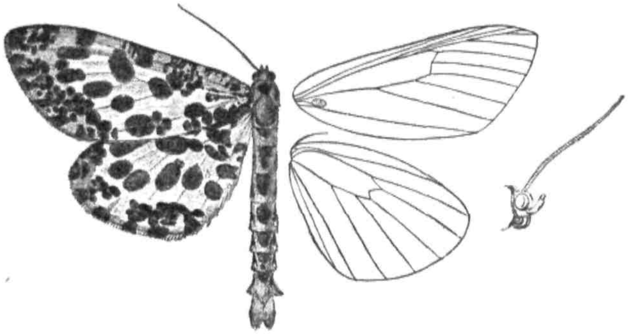

Fig. 145.—*Obeidia tigrata*, ♂. ½.

The spots vary considerably in size and disposition; some specimens have the disk of fore wing and the greater part of hind wing whitish; or in the Indian form *fumosa* with the greater part of the ground-colour of both wings white, the orange being confined in some specimens to the costa of fore wing, and the fuscous spots forming a nearly entire marginal band.

Hab. China; Sikhim; Nágas; Penang. *Exp.* 64–80 millim.

SECT. II. Hind wing with vein 8 approximated to 7 to near end of cell.

3552. **Obeidia millepunctata**, *Warr. P. Z. S.* 1893, p. 389.

♂. Head, thorax, and abdomen pale orange, spotted with black; antennæ black; wings white. Fore wing with the base tinged with orange; the basal area thickly spotted with black; a series of larger irregularly placed medial spots, double from the median nervure to inner margin; the outer area with small spots thickly placed and confluent at apex; cilia black. Hind wing with speck at end of cell; an irregular medial series of large spots; the outer area with small spots, many of which become confluent; cilia black.

Hab. Sikhim. *Exp.* 54 millim.

Genus VITHORA.

Vithora, *Moore, P. Z. S.* 1865, p. 795.

Type, *V. indrasana*, Moore.

Range. Japan; China; Sikhim; Khásis.

Palpi slender and fringed with long hair; the 2nd joint upcurved, the 3rd porrect; frons hairy; antennæ long and simple

dilated towards extremity; abdomen long and slender; hind tibiæ of male dilated with a fold containing a ridge of hair. Wings long and narrow, sparsely clothed with small scales and hair. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked; 10 and 11 free. Hind wing with vein 3 from before angle of cell.

3553. **Vithora indrasana**, *Moore, P. Z. S.* 1865, p. 795, pl. 42, fig. 5; *C. & S.* no. 344.

Halthia nigripars, *Swinh. Trans. Ent. Soc.* 1892, p. 16, pl. 1, fig. 1.

♂. Head, thorax, and abdomen orange, with black markings. Fore wing black, with some yellow at base; a white patch occupying the basal half of cell; a quadrate patch below its middle and another in its extremity; a postmedial curved series of three

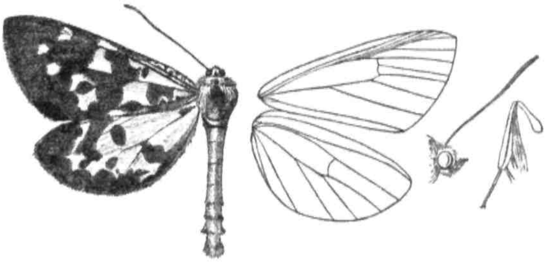

Fig. 146.—*Vithora indrasana*, ♂. ½.

irregular patches, the two lower conjoined; an irregular subapical bar; a submarginal spot below vein 4. Hind wing white, with medial black band interrupted at middle or broken up into spots, some scattered spots and specks beyond it; an irregular marginal band.

♀. The black markings more extensive and the white more reduced, especially on the hind wing, which has a broad curved postmedial band connected by spots with the marginal band.

The markings are very variable.

Hab. Sikhim; Khásis. *Exp.* 62 millim.

Genus **GENUSA.**

Genusa, *Wlk. Cat.* iv, p. 818 (1855).

Type, *G. bigutta*, Wlk.

Range. Calcutta; Burma; Malacca; Sumatra.

Palpi porrect, reaching far beyond the frons, slender and slightly fringed with hair; antennæ bipectinated to apex, the branches longer in the male than the female; hind tibiæ not dilated; frenulum absent; the wings scantily clotned with small scales and hair. Fore wing with the costa arched; the outer margin oblique; vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 free; 11 anastomosing slightly with 12. Hind wing with vein 3 from before angle of cell.

3554. **Genusa bigutta,** *Wlk. Cat.* iv, p. 818; *C. & S.* no. 893.
Genusa destituta, *Wlk. Cat.* xxxii, p. 341.

Yellowish white; thorax and abdomen dorsally spotted with black. Fore wing with black spot at base; very indistinct oblique ante- and postmedial double series of pale fuscous blotches and traces of a submarginal series. Hind wing with traces of postmedial and submarginal maculate bands.

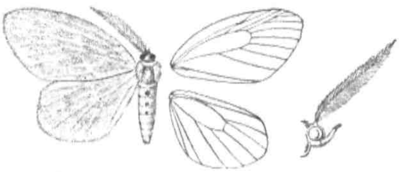
Fig. 147.—*Genusa bigutta*, ♂. ½.

Hab. Calcutta; Moulmein; Malacca; Cambodia; Sumatra. *Exp.* 44 millim.

Genus **MILIONIA.**

Milionia, *Wlk. Cat.* ii, p. 364 (1854).
Epidesma, *Hübn. Verz.* p. 176 (? 1818), non descr.

Type, *M. glauca*, Cram.

Range. China; N.E. India; Burma; the Malayan subregion; New Guinea and neighbouring groups.

Palpi porrect, reaching just beyond the frons, the 2nd joint stout and thickly scaled, the 3rd porrect; antennæ of male thickened by appressed serrations and minutely ciliated; abdomen of male hairy below, the claspers large; hind tibiæ dilated with a fold containing a tuft of long hair. Fore wing with the costa straight; the outer margin obliquely rounded; vein 3 from before angle of cell; 7, 8, 9 stalked; 10 absent; 11 free. Hind wing with vein 3 from before angle of cell; 7 from before upper angle.

3555. **Milionia glauca,** *Cram. Pap. Exot.* iv, pl. 368, fig. D; *C. & S.* no. 3094.
Epidesma pyrrho, *Hübn. Verz.* p. 176.

Black, shot with blue, which is most brilliant at base of hind wing. Fore wing with a broad orange band from costa beyond middle to outer angle, towards which it becomes crimson.

Some specimens have some crimson on fore wing near base below median nervure.

Hab. Tenasserim; Amboina; Ceram. *Exp.* 70 millim.

3556. **Milionia pulchrinervis,** *Feld. Reis. Nov.* pl. 104, fig. 6; *C. & S.* no. 3096.
Milionia lativitta, *Moore, P. Z. S.* 1872, p. 570; *C. & S.* no. 3095.

Differs from *glauca* in not being shot with blue, but the veins of both wings on upper and under sides brilliant metallic blue to the middle. Fore wing with the band wider, more oblique, and orange throughout.

Hab. Sikhim: Sylhet. *Exp.* 70 millim.

3557. **Milionia luculenta**, *Swinh. P. Z. S.* 1889, p. 423, pl. 43, fig. 3.

♀. Differs from *glauca* in the band of the fore wing being crimson except at costa, narrower, and reaching the inner margin before the angle. Hind wing with a medial crimson speck above vein 7, and slightly sinuous narrow band from vein 6 to inner margin.

Hab. Andamans. *Exp.* 62 millim.

3558. **Milionia zonea**, *Moore, P. Z. S.* 1872, p. 569; *C. & S.* no. 3098.
Milionia pyrozonis, *Butl. A. M. N. H.* (5) x, p. 375; *C. & S.* no. 3097.
Milionia sharpei, *Butl. A. M. N. H.* (5) xviii, p. 7.

Differs from *pulchrinervis* in the hind wing having a broad orange band occupying the outer third of the wing, with five submarginal black spots on the veins.

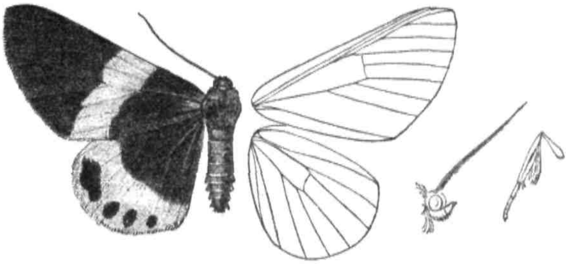

Fig. 148.—*Milionia zonea*, ♂. 1/1.

The form *pyrozonis*, from Burma, has the band of both wings crimson, whilst *sharpei*, from Borneo, has the band dark orange and slightly narrower.

Hab. Sikhim; Assam; Tavoy; Tenasserim; Borneo. *Exp.* 64 millim.

Subfamily ŒNOCHROMINÆ.

Hind wing with vein 5 present, and from about the middle of discocellulars except in *Sarcinodes*; vein 8 free and approximated to 7 to near middle of cell.

The subfamily consists of a few genera not having any very close affinities, and representing divergent developments of the primitive Geometrid stock.

Key to the Genera.

A. Antennæ with uniseriate branches in both sexes.
 a. Palpi porrect, reaching far beyond the frons and broadly fringed with hair; hind wing with vein 5 from middle of discocellulars; the frenulum aborted .... 1. ABRAXAPHANTES, p. 314.

b. Palpi stout, oblique, and reaching just beyond a sharp frontal tuft; hind wing with vein 5 stalked with 6; the frenulum fully developed...... 2. SARCINODES, p. 315.

B. Antennæ not uniseriate; apex of each wing much produced.

a. Palpi slender and reaching far beyond the frons; antennæ of ♂ bipectinated. 3. LOXORHOMBIA, p. 316.

b. Palpi not extending beyond the frons; antennæ of ♂ almost simple.

a'. Fore wing with vein 10 given off from 11, and anastomosing with 8, 9 to form an areole .... 4. PALÆOMYSTIS, p. 317.

b'. Fore wing with vein 10 free; 11 anastomosing with 12 .... 5. DORATOPTERA, p. 318.

Genus ABRAXAPHANTES.

Abraxaphantes, *Warr. Nov. Zool.* p. 374 (1894).

Type, *A. perampla*, Swinh.

Range. Burma.

Palpi reaching far beyond the frons, and fringed with hair on both sides; antennæ pectinated, with short uniseriate branches in both sexes; abdomen long and deep; male with the claspers very large; the frenulum reduced to a slender hair and non-functional, the retinaculum being absent; wings long and narrow. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 and 11 stalked. Hind wing with vein 3 from before angle of cell, 7 from before upper angle.

3559. **Abraxaphantes perampla**, *Swinh. Trans. Ent. Soc.* 1890, p. 211.

White; palpi and frons fiery orange; head and thorax spotted with black. Fore wing with numerous black spots on the basal and

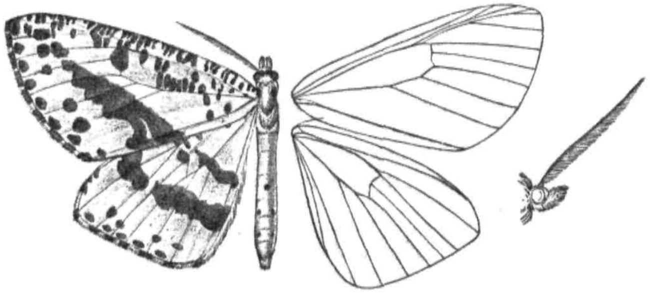

Fig. 149.—*Abraxaphantes perampla*, ♂. ¼.

costal areas and in the cell; a large spot at end of cell, with a broad oblique band from below it forking towards inner margin; both wings with submarginal, marginal, and cilial series of spots,

the 1st series with no spot on vein 4. Hind wing with black spots on costal area; ante- and postmedial maculate bands and a spot at end of cell.

Hab. Burma. *Exp.* 78 millim.

Genus **SARCINODES.**

Sarcinodes, *Guen. Phal.* i, p. 188 (1857).
Mergana, *Wlk. Cat.* xxi, p. 292 (1860).
Auxima, *Wlk. Cat.* xxvi, p. 1526 (1862).

Type, *S. carnearia*, Guen.

Range. Sikhim; Khásis; Sumatra; Borneo.

Palpi upturned and thickly fringed with hair, the 3rd joint naked and porrect; antennæ with short uniseriate branches to two-thirds length in both sexes. Thorax and abdomen stout. Fore wing with the costa straight; the apex produced and acute; vein 3 from close to angle of cell; 5 from near upper angle; 6, 7, 8, 9 stalked; 10, 11 free. Hind wing with vein 3 from close to angle of cell; 5 and 6 stalked; 7 from before upper angle.

3560. **Sarcinodes restitutaria**, *Wlk. Cat.* xxvi, p. 1527; *Butl. Ill. Het.* vi, pl. 115, figs. 1, 2; *C. & S.* no. 3239.
Auxima restitutaria, var. ægrota, *Butl. A. M. N. H.* (5) vi, p. 125; *id. Ill. Het.* vi, pl. 115, figs. 3, 4; *C. & S.* no. 3234.
Auxima sumatraria, *Wlk. Cat.* xxxv, p. 1577.

Pale pink, suffused with chestnut and slightly striated with fuscous. Fore wing with very faint traces of curved ante- and postmedial lines; a double line filled in with grey from apex of fore wing to middle of inner margin of hind wing; a submarginal series of indistinct grey specks on the veins. Underside with

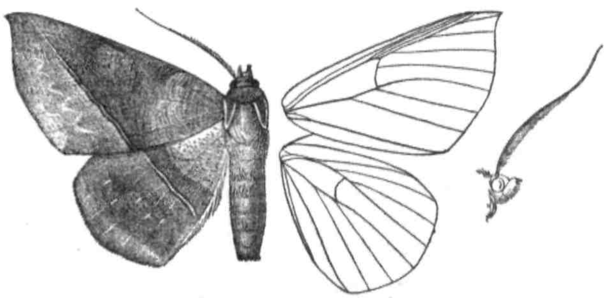

Fig. 150.—*Sarcinodes restitutaria*, ♂. ½.

oblique rufous postmedial line; a series of black specks on the veins beyond it; a submarginal series of white specks.

The variety *ægrota* has hardly a trace of pink; dark submarginal blotches above vein 4 of each wing are sometimes present.

Hab. Sikhim; Khásis; Sumatra. *Exp.* 72 millim.

3561. **Sarcinodes debitaria**, *Wlk. Cat.* xxvi, p. 1527; *Butl. Ill. Het.* vi, pl. 114, fig. 12; *C. & S.* no. 3237.

Yellow, slightly irrorated and striated with fuscous. Fore wing with waved and curved subbasal line; a speck at end of cell; an oblique line with white and pinkish suffusion on its inner edge from the apex to middle of inner margin of hind wing, which has also a dark antemedial line; cilia of both wings brown. Underside much greyer and more striated; a series of black points replacing the oblique line, and commencing with a spot on the costa of fore wing.

Hab. Sikhim; Khásis. *Exp.* 60 millim.

3562. **Sarcinodes lilacina**, *Moore, Lep. Atk.* p. 234; *C. & S.* no. 3238.
Sarcinodes susana, *Swinh. Trans. Ent. Soc.* 1891, p. 488.

♂. Differs from *debitaria* in being pale pink. Fore wing with the oblique line bright orange on a pale yellow band. Underside with medial oblique red line with purple beyond it from lower angle of cell of fore wing to inner margin of hind wing.

The form *susana* is bright yellow, spotted and blotched with purplish pink, and with a marginal series of black specks.

Hab. Khásis. *Exp.* 60 millim.

3563. **Sarcinodes carnearia**, *Guen. Phal.* i, p. 188; *C. & S.* no. 3236.
Mergana bilineata, *Moore, P. Z. S.* 1867, p. 624.

Differs from *restitutaria* in having an oblique rufous line from costa of fore wing beyond middle to inner margin of hind wing before middle; the line from apex rufous, single, and with a narrow belt of grey on its inner edge.

Hab. Sikhim; Khásis. *Exp.* 60–66 millim.

3564. **Sarcinodes æquilinearia**, *Wlk. Cat.* xxi, p. 292; *Butl. Ill. Het.* vi, pl. 115, figs. 5, 6; *C. & S.* no. 3235.
Auxima trilineata, *Wlk. Cat.* xxxv, p. 1576.

Pinkish grey, irrorated with fuscous. Fore wing with three equidistant oblique rufous lines with slight olive suffusion beyond them, the outer from the apex; hind wing with ante- and postmedial lines; both wings with a series of white and dark submarginal specks; the cilia and costa of fore wing rufous. Underside as in *debitaria*; the outer area of hind wing suffused with brown, and with yellow patches between veins 4 and 5 and at outer angle.

Hab. Sikhim; Khásis. *Exp.* 64 millim.

Genus **LOXORHOMBIA.**

Loxorhombia, *Warr. Nov. Zool.* p. 369 (1894).

Type, *L. idea*, Swinh.
Range. Burma.

Palpi porrect, the 2nd joint roughly scaled and reaching far beyond the frons, the 3rd long and naked; antennæ of male bipectinated to three-fourths length; abdomen and legs long and slender; frenulum very slender. Fore wing with the apex produced; vein 3 from before angle of cell; 5 from just above middle of discocellulars; 7, 8, 9 stalked from before upper angle; 10, 11 stalked, anastomosing with 12, then 10 with 8, 9. Hind wing with the outer margin produced to a point at vein 7; 3 from before angle of cell; 5 from middle of discocellulars.

3565. **Loxorhombia idea,** *Swinh. Trans. Ent. Soc.* 1890, p. 211, pl. 7, fig. 2.

♂. Grey, striated and suffused with fuscous. Fore wing with the costa not suffused; a speck at end of cell; an oblique pale and dark line from apex to middle of inner margin; an indistinct, oblique, waved submarginal line. Hind wing with oblique pale and dark antemedial, postmedial, and submarginal lines; a fine black marginal line.

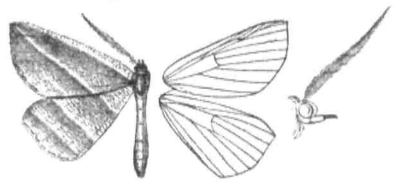

Fig. 151.—*Loxorhombia idea*, ♂. ½.

Hab. Upper Burma; Bassein. *Exp.* 42 millim.

Genus PALÆOMYSTIS.

Palæomystis, *Warr. Nov. Zool.* p. 379 (1894).

Type, *P. falcataria*, Moore.

Range. Tibet; Sikhim.

Palpi porrect, slight, and not extending beyond the frons; antennæ somewhat thickened by appressed serrations; frenulum very slender. Fore wing somewhat produced and acute at apex; vein 3 from before angle of cell; 5 from middle of discocellulars; 7, 8, 9 stalked; 10, 11 stalked, and 10 anastomosing with 8, 9. Hind wing with the outer margin produced to a point at vein 7; vein 3 from before angle of cell; 5 from middle of discocellulars; 7 from just before upper angle.

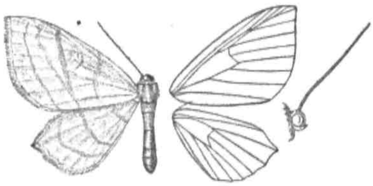

Fig. 152.—*Palæomystis falcataria*, ♂. ½.

3566. **Palæomystis falcataria,** *Moore, P. Z. S.* 1867, p. 613; *C. & S.* no. 3104.

Metrocampa unio, *Oberth. Et. Ent.* xi, p. 32, pl. vi, fig. 43.

♂. White, with a slight yellow tinge and fuscous irroration. Each wing with slightly curved fuscous antemedial line; oblique postmedial line joined at vein 2 by a curved line; a curved submarginal line.

Hab. Tibet; Sikhim. *Exp.* 44 millim.

Genus **DORATOPTERA**, nov.

Type, *D. nicevillei*, Hmpsn.

Range. Sikhim.

Palpi porrect and clothed with hair; frons produced to a rounded prominence; vertex of head with a large conical tuft: antennæ minutely ciliated. Fore wing with the apex extremely produced and acute, the outer margin forming a continuous curve with the inner margin; veins 2, 3, and 4 curved, 3 from before end of cell; 5 very slender; 7, 8, 9 stalked to near apex; 10 free; 11 anastomosing with 12; a fringe of hair on the upperside below vein 1. Hind wing with the apex arched and produced to a point at vein 7; 3 from before angle of cell; 5 very slender.

3567. **Doratoptera nicevillei,** n. sp.

♂. Pale ochreous; frons brownish. Wings of a satiny texture; fore wing with pale golden-brown streaks on the costa, the veins, and in the interspaces.

Hab. Sikhim. *Exp.* 60 millim. Type in B. M.

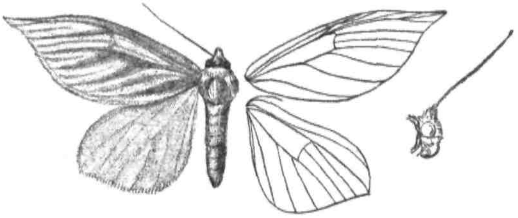

Fig. 153.—*Doratoptera nicevillei*, ♂. ½.

Subfamily ORTHOSTIXINÆ.

Hind wing with vein 5 present and from about middle of discocellulars, except in *Alex*; vein 8 connected with 7 by an oblique bar near base, then rapidly diverging from it.

A small but fairly compact subfamily, not far removed from the primitive Geometrid stock.

Key to the Genera.

A. Fore wing with veins 10, 11 stalked and anastomosing with 12.
- *a.* Palpi slight and reaching just beyond the frons, which is rounded; antennæ of ♂ fringed with short scales at middle; hind tibia and 1st joint of tarsus much dilated. .... 1. CELERENA, p. 319.
- *b.* Palpi with the 2nd and 3rd joints thickly scaled and reaching beyond the sharp frontal tuft; fore wing with the apex somewhat produced .... 4. ALEX, p. 322.

B. Fore wing with vein 11 anastomosing with 12 and then with 10; palpi upturned and reaching vertex of head; antennæ and legs long and slender....................... 2. EUMELEA, p. 320.

C. Fore wing with veins 9, 10, 11 stalked, anastomosing with 12, or connected with it by a bar; hind tibiæ without spurs or with only the terminal pair .... 6. NAXA, p. 324.

D. Fore wing with veins 7, 8, 9, 10 stalked.
- *a* Fore wing with vein 11 free; antennæ of ♂ bipectinated, with short branches .... 3. IOTAPHORA, p. 322.
- *b.* Fore wing with vein 11 anastomosing with 12 and then with 10, which again anastomoses with 8, 9; antennæ of ♂ ciliated. 5. NOREIA, p. 324.

E. Fore wing with veins 7, 8, 9 stalked; 10 absent.
- *a.* Fore wing with vein 11 becoming coincident with 12; the apex rounded; hind wing with veins 6, 7 stalked; legs and antennæ very long and slender .... 7. RAMBARA, p. 326.
- *b.* Fore wing with vein 11 anastomosing with 12, and then with 8, 9; the apex produced; hind wing with veins 6, 7 from cell .... 8. OZOLA, p. 327.

Genus CELERENA.

Celerena, *Wlk. Trans. Ent. Soc.* ser. 3, i, p. 71 (1862).

Type, *C. divisa*, Wlk.

Range. Sikhim; Assam; Sylhet; Burma; Andamans; Moluccas; Austro-Malayan subregion.

Palpi porrect and reaching beyond the frons; antennæ of male fringed with short scales at middle; large tufts of hair from the base of coxæ and abdomen; hind tibiæ immensely dilated, containing flocculent masses of hair, and with a large terminal triangular process on the outer side; the 1st joint of tarsi dilated into a large lobe on the inner side. Fore wing long, with the outer margin oblique; male with a fold fringed with scales in the cell; vein 3 from before angle of cell; 5 from middle of discocellulars; 7, 8, 9 stalked; 10, 11 stalked, anastomosing with 12, and 10 nearly touching 8, 9. Hind wing with vein 3 from before angle of cell; 5 from middle of discocellulars; 7 from before upper angle.

3568. **Celerena divisa,** *Wlk. Trans. Ent. Soc.* ser. 3, i, p. 72; *Butl. Ill. Het.* vi, pl. 113, fig. 1; *C. & S.* no. 3100.

Bright yellow. Fore wing with the base of costa lilacine grey, as far as the medial black band, which is angled on discocellulars and terminates at vein 2; both wings with a curved postmedial band running to outer angle, the area beyond it lilacine grey. Underside of fore wing with a fuscous streak on vein 2 joining the medial and postmedial bands.

Hab. Sikhim; Sylhet; Sibságar. *Exp.* 76 millim.

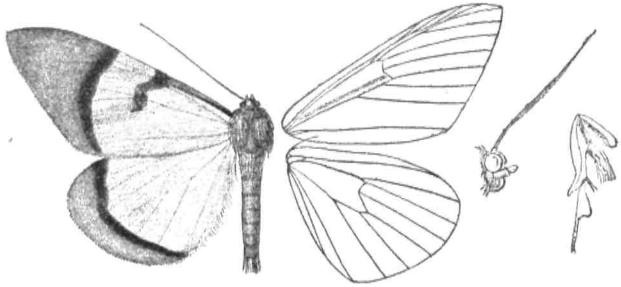

Fig. 154.—*Celerena divisa*, ♂. 1/1.

3569. **Celerena andamana,** *Feld. Reis. Nov.* pl. 130, fig. 18; *C. & S.* no. 3099.

Differs from *divisa* in the medial and postmedial bands of the fore wing being reduced to lines and nearer the margin; underside with no fuscous on vein 2.

Hab. Tenasserim; Andamans. *Exp.* 62 millim.

Genus **EUMELEA**.

Eumelea, *Duncan, Jardine's Nat. Libr.* xxxii, p. 215 (1841).

Type, *E. rosalia*, Cram.

Range. China; throughout India, Ceylon, and Burma; the Malayan and Austro-Malayan subregions.

Palpi upturned, the 2nd joint thickly scaled, the 3rd porrect and naked; antennæ very long and slender; legs long and slender; the hind tibiæ fringed with hair. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked from upper angle; 11 anastomosing with 12 and then with 10. Hind wing with vein 3 from before angle of cell; 5 from middle of discocellulars; 6, 7 stalked.

3570. **Eumelea rosalia,** *Cram. Pap. Exot.* iv, p. 152, pl. 368, fig. F; *C. & S.* no. 3545.

Phalæna vulpenaria, *Cram. Pap. Exot.* iv, p. 245, pl. 400, figs. O, P; *C. & S.* no. 3546.

Phalæna gravidata, *Fabr. Ent. Syst.* iii, 2, p. 175.

Ametris punicearia, *Hübn. Verz.* p. 303.

Eumelia feliciata, *Guen. Phal.* i, p. 393; *C. & S.* no. 3540.
Eumelia florinata, *Guen. Phal.* i, p. 392.
Eumelia ludovicata, *Guen. Phal.* i, p. 393; *C. & S.* no. 3544.
Eumelia flavata, *Moore, Lep. Ceyl.* iii, p. 440, pl. 198, fig. 3; *C. & S.* no. 3543.

Bright orange-yellow, thickly irrorated with crimson. Fore wing with indistinct antemedial, medial, and submarginal crimson bands; hind wing with medial and submarginal bands. Underside with the crimson bands more prominent.

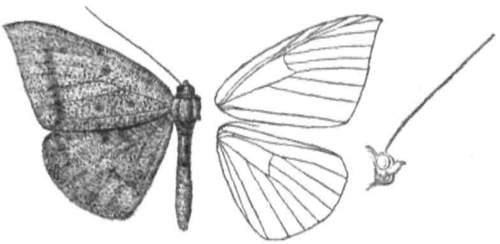

Fig. 155.—*Eumelea rosalia*, ♂. ¼.

In typical *rosalia* the crimson becomes the dominant colour; *ludovicata* is much more orange, with the bands diffused; *flavata* is yellow, with the medial band well-defined and narrow; *vulpenaria* is much browner, especially in the male, with the crimson bands well-defined and narrow, and some yellow on outer margin of hind wing.

Hab. China; Formosa, throughout India, Ceylon, and Burma; the Malayan and Austro-Malayan subregions. *Exp.*, ♂ 50, ♀ 60 millim.

3571. **Eumelea olivacea**, *Hmpsn. Ill. Het.* viii, p. 111, pl. 151, fig. 17.

♂. Differs from *rosalia* in being olive-brown, irrorated with dark specks, and with no trace of crimson; fore wing with the antemedial band and both wings with the medial band dark; no trace of submarginal band on the upperside.

Hab. Sikhim; Nilgiris. *Exp.* 50 millim.

3572. **Eumelea aureliata**, *Guen. Phal.* i, p. 394 *Moore, Lep. Ceyl.* iii, pl. 198, figs. 4, 4 *a*; *C. & S.* no. 3539.

Differs from *rosalia* in being yellow, irrorated with orange specks; the bands obsolete. Fore wing with two purplish spots on costa; a large spot on inner margin beyond middle; an indistinct submarginal series of spots. Hind wing with spot at end of cell; a postmedial series commencing with a large blotch on the costa; a submarginal series.

Hab. Formosa; Assam; Canara; Nilgiris; Ceylon; Burma; Nicobars. *Exp.*, ♂ 56, ♀ 60 millim.

Genus IOTAPHORA.

Iotaphora, *Warr. Nov. Zool.* p. 384 (1894).
Iotaphora, *Swinh. Trans. Ent. Soc.* 1894, p. 168.

Type, *I. iridicolor*, Butl.
Range. Tibet; Sikhim; Khásis.

Palpi porrect and hairy; a rounded frontal prominence; antennæ of male bipectinated, with short stiff branches; hind tibiæ dilated with a fold containing a tuft of hair. Fore wing with the apex arched; vein 3 from the angle of cell; 7, 8, 9, 10 stalked; 11 free. Hind wing with the margin crenulate; vein 3 from close to angle of cell; 5 from above middle of discocellulars.

3573. **Iotaphora iridicolor**, *Butl. A. M. N. H.* (5) vi. p. 227; *id. Ill. Het.* vi, pl. 113, fig. 3; *C. & S.* no. 3101.
Metrocampaa dmirabilis, *Oberth. Bull. Soc. ent. Fr.* 1883, p. lxxxiv.

♂. Pale orange-yellow; palpi black at sides. Fore wing with a black spot at base of costa, which is whitish; a curved antemedial orange line; a broad medial band; a prominent black

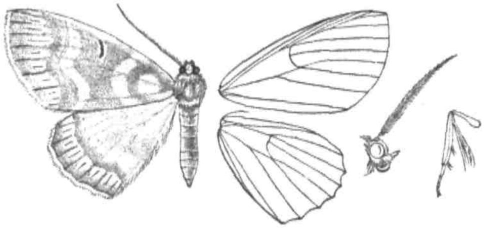

Fig. 156.—*Iotaphora iridicolor*, ♂. ½.

lunule on discocellulars; both wings with a postmedial orange line excurved between veins 2 and 4, and a series of submarginal black streaks on the veins and in the interspaces.

Hab. Tibet; Sikhim; Khásis. *Exp.* 56 millim.

Genus ALEX.

Alex, *Wlk. Cat.* xxvi, p. 1753 (1862).
Gamoruna, *Moore, Lep. Atk.* p. 265 (1888).
Geoglada, *Swinh. Trans. Ent. Soc.* 1894, p. 184.

Type, *A. nigrozonata*, Wlk.
Range. Sikhim; Khásis; Nilgiris; Ceylon; Borneo.

Palpi porrect, the 2nd joint reaching beyond the sharp frontal tuft and clothed with hair, the 3rd long and naked. Fore wing somewhat produced and acute at apex; vein 3 from near angle of cell; 5 from middle of discocellulars; 7, 8, 9 stalked; 10, 11 stalked and anastomosing with 12. Hind wing with vein 3 from near angle of cell; 5 from above middle of discocellulars.

SECT. I. (*Alex*). Antennæ of male bipectinated, with short branches ending in a long spine; hind wing of male with vein 5 stalked with 6.

3574. **Alex nigrozonata**, *Wlk. Cat.* xxvi, p. 1754.
Panagra palparia, *Wlk. Cat.* xxiii, p. 988; *C. & S.* no. 3686.
Orgalima continuaria, *Wlk. Cat.* xxxv, p. 1617.
Alex indica, *Warr. Nov. Zool.* p. 368.

Yellowish brown, irrorated with black; frons and palpi black. Fore wing with traces of ante- and postmedial lines; a speck at end of cell; an oblique ferruginous line from the apex to inner

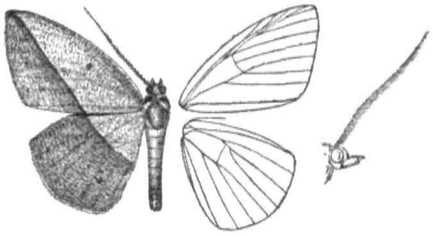

Fig. 157.—*Alex nigrozonata*, ♂. ½.

margin of hind wing before middle; a submarginal series of specks on blackish patches; cilia ochreous at base, black at tips. Underside much more irrorated and blotched with black.

Some females are much yellower brown.

Hab. Khásis; Borneo. *Exp.*, ♂ 52, ♀ 54 millim.

SECT. II. (*Geoglada*). Antennæ of male ciliated; hind wing with vein 5 from above middle of discocellulars.

3575. **Alex helicola**, *Swinh. Trans. Ent. Soc.* 1894, p. 184.

Differs from *nigrozonata* in the submarginal black specks not being on blackish patches; underside of fore wing with the postmedial line obsolete.

Hab. Sikhim; Khásis. *Exp.*, ♂ 52, ♀ 44 millim.

3576. **Alex nigripuncta**, *Hmpsn. Ill. Het.* viii, p. 114, pl. 151, fig. 18.

Differs from *nigrozonata* in being grey. Fore wing with the antemedial line represented by specks on median nervure and vein 1; no trace of the postmedial line; the ferruginous line less oblique, medial on the hind wing; no series of submarginal specks, but a large black spot above inner margin of fore wing beyond the oblique line.

Some females are reddish grey, and without the black spot.

Hab. Nilgiri plateau; Ceylon; Borneo. *Exp.* 54–60 millim.

Genus NOREIA.

Noreia, *Wlk Cat.* xxiv, p. 1092 (1862).

Type, *N. ajaia*, Wlk., from Singapore and Java.

Range. Assam Hills; Travancore; Ceylon; Singapore; Borneo; Java.

Palpi upturned and reaching vertex of head; antennæ of male ciliated; hind tibiæ with a slight ridge of scales on inner side. Fore wing with vein 3 from before angle of cell; 7, 8, 9, 10 stalked; 11 anastomosing with 12, then with 10, which again anastomoses with 8, 9. Hind wing with vein 3 from just before angle of cell, 7 from just before upper angle.

3577. **Noreia perdensata**, *Wlk. Cat.* xxiv, p. 1092.
Noreia ajaia, *C. & S.* no. 3229 (*nec Wlk.*).

Dárk purplish grey. Fore wing with antemedial rufous line slightly angled on median nervure and vein 1; a dark speck at end of cell; an oblique rufous line from apex of fore wing to inner margin beyond middle. Hind wing with speck at end of cell and slightly curved postmedial rufous line.

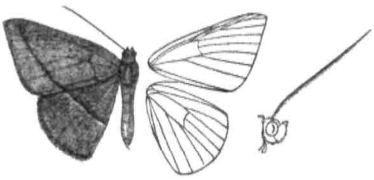

Fig. 158.—*Noreia perdensata*, ♂. ½.

In the typical Singapore and Javan species *ajaia* the male has the area below lower angle of cell on underside hairy, especially on vein 2.

Hab. Khásis; Nágas; Travancore; Ceylon. *Exp.* 38 millim.

Genus NAXA.

Naxa, *Wlk. Cat.* vii, p. 1742 (1856).
Psilonaxa, *Warr. P. Z. S.* 1893, p. 343.

Type, *N. textilis*, Wlk.

Range. Amur; Japan; Himalayas; Assam; Burma; Nilgiris Ceylon; Borneo.

Palpi very minute. Fore wing with the apex rounded; vein 3 from before angle of cell; 7, 8 stalked from before upper angle; 9, 10, 11 stalked and anastomosing or connected with 12, and 9 with 8. Hind wing with vein 3 from before angle of cell; 5 from middle of discocellulars; 7 from before upper angle.

Sect. I. Frenulum absent; hind tibiæ not dilated and without spurs.

A. (Naxa). *Antennæ bipectinated in both sexes.*

3578. **Naxa textilis**, *Wlk. Cat.* vii, p. 1743; *C. & S.* no. 3746.
Bombycodes cypraria, *Guen. Phal.* ii, p. 219.

Orthostixis hügeli, *Feld. Reis. Nov.* pl. 130, fig. 19; *C. & S.* no. 3748.
Naxa guttulata, *Warr. Nov. Zool.* p. 377.

Scantily clothed with white hair; tegulæ with black spots; wings semidiaphanous. Fore wing with black streak on base

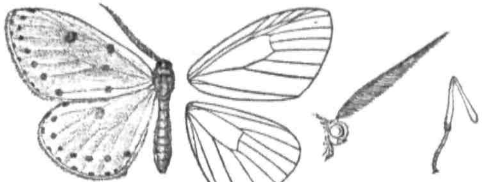

Fig. 159.—*Naxa textilis*, ♂. ⅟.

of costa; three antemedial black spots on the nervures; both wings with a white-centred spot at end of cell; submarginal and marginal series of specks; legs marked with black.

In the form *hügeli*, from the Amur, N.W. Himalayas, S. India, Ceylon, and Borneo, the submarginal series of specks are further from the margin and less black than in typical *textilis* from N.E. Bengal.

Hab. Amur; N.W. Himalayas; Sikhim; Bhután; Assam; Nilgiris; Ceylon; Burma; Borneo. *Exp.* 44–58 millim.

B. (Psilonaxa). *Antennæ serrate in both sexes.*

3579. **Naxa seriaria,** *Motsch. Bull. Soc. Nat. Mosc.* 1866, pt. 1, p. 196.
Orthostixis lætata, *Brem. Lep. Ost-Sib.* p. 84 (*nec Fabr.*).
Zerene taicoumaria, *de l'Orza, Cat. Lép. Jap.* p. 48.
Orthostixis bremeraria, *Staud. Cat.* no. 2241.
Psilonaxa obliterata, *Warr. P. Z. S.* 1893, p. 393, pl. 31, fig. 10.

Differs from *textilis* in the cell-spots not having white centres.

In the Japanese *seriaria* the spots are large and black; in the Indian *obliterata* small and fuscous.

Hab. Amur; Japan; Bhután; Nágas. *Exp.* 40–42 millim.

Sect. II. Frenulum present; antennæ bipectinated; hind tibiæ of male very much dilated and with a small terminal pair of spurs.

3580. **Naxa orthostigialis,** *Warr. P. Z. S.* 1893, p. 343.

♂. Differs from *textilis* in the cell-spots not having white centres, and with series of spots on the veins below them; the submarginal series straighter and further from the margin.

Hab. Bhután; Nágas. *Exp.* 46 millim.

Genus RAMBARA.

Rambara, *Moore, Lep. Ceyl.* iii, p. 458 (1887).

Type, *R. saponaria*, Guen.

Range. Madagascar; Formosa; throughout India, Ceylon, and Burma; Andamans; Borneo; Java; and Australian region.

Palpi porrect and hairy; antennæ long and slender, minutely serrate in male, ciliated in female; legs very long and slender; fore tibiæ short; hind tibiæ with fold and tuft, and without spurs in male. Fore wing with vein 3 from long before angle of cell; 7, 8, 9 stalked from before upper angle; 10 absent; 11 becoming coincident with 12. Hind wing with vein 3 from before angle of cell; 5 from middle of discocellulars; 6, 7 stalked.

3581. **Rambara saponaria,** *Guen. Phal.* ii, p. 16; *Moore, Lep. Ceyl.* iii, pl. 203, fig. 8; *C. & S.* no. 3964.
Zanclopteryx fragilis, *Butl. P. Z. S.* 1880, p. 687.

White; abdomen with black band or spots on 2nd segment; wings semihyaline. Fore wing with an antemedial series of three fulvous spots, nearly joined on inner margin by a curved postmedial series; a black spot at end of cell. Hind wing with fulvous spot at end of cell and curved postmedial series, excurved between veins 2 and 5; both wings with marginal series of black specks.

Hab. Formosa; Travancore; Ceylon; Borneo. *Exp.* 20 millim.

3582. **Rambara infelix,** *Swinh. P. Z. S.* 1885, p. 858, pl. 56, fig. 13; *C. & S.* no. 3963.

♀. Differs from *saponaria* in having no black mark on abdomen; fore wing with no black spot at end of cell; hardly a trace of fulvous spots; a few fulvous specks on costa and some fulvous scales on outer and inner areas of each wing.

Hab. Poona; Khandála. *Exp.* 20 millim.

3583. **Rambara ochreicostalis,** *Hmpsn. Ill. Het.* ix, p. 150, pl. 169, fig. 21.

Differs from *saponaria* in having no black mark on the abdomen. Fore wing with a broad, pale, fulvous costal fascia; the antemedial series of specks curved and well separated from the oblique postmedial series, which consists of distinct lunules; a submarginal series of fulvous spots, not extending to apex. Hind wing with a submarginal series of fulvous spots.

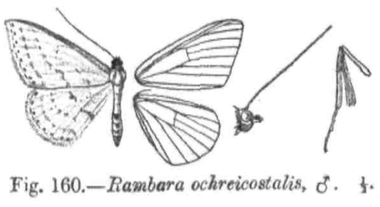

Fig. 160.—*Rambara ochreicostalis*, ♂. ½.

Hab. Ceylon; Burma; Andamans; Malacca; Nias. *Exp.* 30 millim.

3584. **Rambara satelliata,** *Wlk. Cat.* xxxv, p. 1636.
Rambara dentifera, *Moore, Lep. Atk.* p. 256; *C. & S.* no. 3962.
Rambara efila, *Swinh. Trans. Ent. Soc.* 1894, p. 168.

Pure white; both wings with trilobate white-centred discocellular spot; a small spot on middle of inner margin; traces of postmedial specks, and marginal series of black specks; fore wing with black subapical lunule, and a small fuscous mark on margin below apex.

Hab. Sikhim; Khásis; Sula. *Exp.* 32 millim.

Genus **OZOLA.**

Ozola, *Wlk. Cat.* xxiv, p. 1080 (1862).
Carima, *Wlk. Cat.* xxvi, p. 1630 (1862).
Zarmigethusa, *Wlk. Cat.* xxvi, p. 1637.
Tosaura, *Swinh. Trans. Ent. Soc.* 1892, p. 15.

Type, *O. microniaria*, Wlk.

Range. Throughout India, Ceylon, and Burma; the Malayan and Austro-Malayan subregions.

Palpi porrect, clothed with hair and reaching beyond the frons; antennæ of male ciliated; abdomen and legs long and slender; hind tibiæ dilated with a fold containing a tuft of hair. Fore wing long and narrow, with the apex produced; vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle; 10 absent; 11 anastomosing with 12 and then with 8, 9. Hind wing with vein 3 from before angle of cell; 5 from just above middle of discocellulars; 6, 7 from upper angle.

SECT. I. Fore wing with the outer margin not excised below apex.

3585. **Ozola picaria,** *Swinh. Trans. Ent. Soc.* 1892, p. 16, pl. 1, fig. 16.

Head, thorax, and abdomen orange, spotted with black; wings white, with reddish-fuscous spots and blotches. Fore wing with the costa almost entirely dark; the blotches forming a broad almost entire antemedial band; a medial patch on costa; the outer area almost entirely dark, except at middle, where it is broken by the white ground-colour. Hind wing with spot at end of cell and very incomplete postmedial, submarginal, and marginal series of spots.

Hab. Sikhim; Khásis. *Exp.* 42 millim.

SECT. II. Fore wing with the outer margin excised below apex.

A. *Fore wing with the costa not excised; hind wing with the outer margin rounded.*

3586. **Ozola falcipennis,** *Moore, Lep. Atk.* p. 266, pl. 8, fig. 29 *C. & S.* no. 3724.

Differs from *picaria* in the fuscous markings having no red tinge,

and reduced on the fore wing to a basal patch; a curved antemedial band; a medial spot below costa; a submarginal band interrupted at middle; a marginal band from apex to vein 4; a few strigæ on the costa, and small postmedial spots. Hind wing as in *picaria*, except that an apical fuscous patch is present.

Hab. Khásis; Nágas. *Exp.* 40 millim.

3587. **Ozola macariata,** *Wlk. Cat.* xxvi, p. 1637.

Pale ochreous brown, irrorated with black. Fore wing with curved antemedial line; speck at end of cell; two postmedial lines, the inner nearly straight, the outer excurved between the costa and vein 2 and joined to the inner line at costal and inner margins; an oblique subapical bar; dark patches on outer margin below apex and above outer angle; a marginal series of black specks. Hind wing with medial line; a postmedial curved line rising from the same point on the costa as the medial line; traces of submarginal line and marginal series of black specks.

Hab. Khásis; Ceram; Alu. *Exp.* 30–32 millim.

3588. **Ozola microniaria,** *Wlk. Cat.* xxiv, p. 1080; *Moore, Lep. Ceyl.* iii, pl. 204, figs. 9, 10; *C. & S.* no. 3687.
Phibalapteryx acutata, *Wlk. Cat.* xxv, p. 1340.
Zarmigethusa minor, *Moore, Lep. Atk.* p. 264; *C. & S.* no. 3660.

Differs from *macariata* in the fore wing being rather broader; the antemedial line further from the base; the two postmedial lines angled below the costa and separate; a submarginal series of specks instead of the subapical bar. Hind wing with the medial line closer to the postmedial.

Some specimens are reddish, with nearly the whole outer area of fore wing suffused with fuscous; the Dharmsála form has dark suffusion between the postmedial lines of fore wing and between the medial and postmedial lines of hind wing.

Hab. Dharmsála; Khásis; Calcutta; Ganjam; Nilgiris; Ceylon. *Exp.* 28 millim.

B. *Hind wing with the outer margin produced to a point at vein 6, especially in the male.*

3589. **Ozola extersaria,** *Wlk. Cat.* xxiii, p. 926; *C. & S.* no. 3659.

Differs from *macariata* in the lines being less distinct; fore wing with the two postmedial lines separate, angled below the costa, then oblique; the area beyond them suffused with rufous; an indistinct submarginal series of specks. Hind wing with the three lines more distinct and regular; a black speck at end of cell.

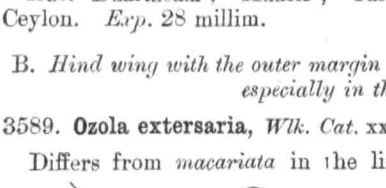

Fig. 161.—*Ozola extersaria*, ♂. ½.

Hab. Khásis. *Exp.* 36 millim.

C. *Fore wing with the costa excised beyond the middle.*

3590. **Ozola biangulifera**, *Moore, Lep. Atk.* p. 263; *C. & S.* no. 3658.

♂. Pale reddish ochreous. Fore wing with the antemedial line double and angled below the costa; the speck at end of cell on an oblique quadrate patch; the postmedial lines treble, close together, and with a dark spot on them below vein 2; a submarginal series of specks prominent towards costa; a marginal series of specks. Hind wing with speck or spot at end of cell; double postmedial line; submarginal and marginal series of specks. Some specimens are pale, with the markings dark.

Hab. Sikhim; Khásis. *Exp.* 32 millim.

Subfamily LARENTIINÆ.

Palpi usually reaching well beyond the frons, and with the 2nd joint hairy. Fore wing with vein 10 from the cell or stalked with 11, and usually with a single or double areole; in the genus *Cataclysme* veins 6, 7 are stalked, this modification having probably arisen from part of vein 8 forming the outer wall of what was a double areole having become aborted. Hind wing with vein 5 fully developed *; 6, 7 usually stalked; 8 usually anastomosing with 7 to beyond middle of cell, but often running close along it and connected with it by an oblique bar beyond the middle.

Key to the Genera.

A. Hind wing with vein 8 connected with 7 by a bar near middle of cell in both sexes.
- *a.* Palpi clothed with scales and hardly reaching beyond the frons.
  - *a'.* Fore wing with veins 10, 11 stalked, 10 anastomosing with 8, 9 to form a single areole.
    - a^2. Hind wing with veins 6, 7 from cell . . . . 3. NAXIDIA, p. 334.
    - b^2. Hind wing with veins 6, 7 stalked.
      - a^3. Hind wing with vein 8 bifurcate near apex . . . . 1. LEPTOSTEGNA, [p. 333.
      - b^3. Hind wing with vein 8 not bifurcate . . . . 2. PSEUDEUCHLORA, [p. 333.
  - *b'.* Fore wing with vein 10 anastomosing with 11 and then with 8, 9 to form a double areole . . . . 4. DYSETHIA, p. 335.
- *b.* Palpi clothed with long hair and reaching far beyond the frons.
  - *a'.* Hind wing with veins 6, 7 from cell.
    - a^2. Outer margin of both wings rounded; hind wing with veins 3, 4 from cell. 5. CRYPTOLOBA, p. 336.
    - b^2. Outer margin of both wings angled.
      - a^3. Fore wing with vein 10 given off

* Except in *Microloba*, ♂.

from 11, and anastomosing with 8, 9 to form an areole; hind wing with veins 3, 4 stalked .... 6. LOBOGONIA, p. 338.

b^3. Fore wing with veins 7, 8, 9, 10, 11 stalked .... 8. GONIOPTEROLOBA, [p. 339.

b'. Hind wing with veins 6, 7 stalked.

a^2. Outer margin of both wings angled; fore wing with vein 10 anastomosing with 8, 9 to form the areole. 9. CARIGE, p. 340.

b^2. Outer margin of both wings rounded; fore wing with veins 10 and 11 anastomosing with 8, 9 to form the areole .... 7. SYZEUXIS, p. 339.

B. Hind wing with vein 8 anastomosing with 7 to middle of cell *.

a. Fore wing with vein 10 anastomosing with 11 and then with 8, 9 to form a double areole.

a'. Hind tibiæ with the medial pair of spurs absent.

a^2. Palpi porrect and extremely long, the 2nd joint being at least twice the length of head.

a^3. Abdomen extremely long; hind wing with veins 6, 7 from cell .. 31. PHTHONOLOBA, [p. 407.

b^3. Abdomen short; hind wing with veins 6, 7 stalked .... 28. TRICHOPTERYX, [p. 404.

b^2. Palpi minute; fore wing long and narrow .... 41. LYCAUGIDIA, [p. 424.

b'. Hind tibiæ with two pairs of spurs.

a^2. Hind wing with the costa highly arched and vein 8 curved, especially in male.

a^3. Frons rounded and smooth; palpi upturned; male with four tufts on inner area of fore wing ...... 20. CALLABRAXAS, [p. 383.

b^3. Frons with a sharp tuft; palpi porrect.

a^4. Palpi with the 3rd joint prominent and smoothly scaled .. 21. GANDARITIS, p. 384.

b^4. Palpi with the 3rd joint short and buried in hair; male with tufts of long hair below cell of fore wing .... 19. PHOTOSCOTOSIA, [p. 380.

b^2. Hind wing with the costa and vein 8 nearly straight.

a^3. Hind wing with vein 5 from or from above middle of discocellulars, which are oblique.

a^4. Hind wing with vein 6 present.

a^5. Fore wing with the apex much produced and the outer margin oblique; hind wing of male with the inner area reduced to a small fold at base. 11. ANAITIS, p. 341.

* Except in the males of the *Docirava* section of *Anaitis*, of *Brabira*, and in some species of *Trichopteryx*.

b^5. Fore wing with the apex rectangular or hardly produced.
  a^6. Frons with a short sharp tuft.
    a^7. Hind wing with the apex extending considerably beyond outer angle of fore wing, which has the outer margin oblique .... 12. EUBOLIA, p. 343.
    b^7. Hind wing with the apex not extending beyond outer angle of fore wing, which has the outer margin suberect.
      a^8. Hind wing with the outer margin highly crenulate .... 14. PHIBALAPTERYX, [p. 346.
      b^8. Hind wing with the outer margin not crenulate.
        a^9. Palpi short; the outer margin of each wing rounded .... 16. CIDARIA, p. 349.
        b^9. Palpi long; the outer margin of each wing angled .... 17. GONANTICLEA, [p. 366.
  b^6. Frons smooth and rounded.
    a^7. Fore wing with the outer margin oblique; male with a fovea and deep furrow at base; hind wing short .... 22. PHYSETOBASIS, [p. 385.
    b^7. Fore wing with the outer margin suberect; hind wing ample .... 35. ASTHENA, p. 417.
b^4. Hind wing with vein 6 absent.. 30. BRABIRA, p. 406.
b^3. Hind wing with the discocellulars angled, vein 5 from below their angle.
  a^4. Frons smooth and rounded .... 39. STAMNODES, p. 423.
  b^4. Frons with a short sharp tuft.
    a^5. Wings with the cilia non-crenulate .... 18. LARENTIA, p. 367.
    b^5. Wings with the cilia crenulate .... 13. SCOTOSIA, p. 344.
b. Fore wing with veins 10, 11 stalked; 10 anastomosing with 8, 9 to form the single areole.
  a'. Hind tibiæ with two pairs of spurs *.
    a^2. Fore wing with vein 11 anastomosing with 12........................ 25. CHLOROCLYSTIS, [p. 390.
    b^2. Fore wing with vein 11 not anastomosing with 12.

* Except in the male of *Chloroclystis costalis.*

a^3. Hind wing with vein 5 from middle of discocellulars, which are oblique.
a^4. Frons with a short sharp tuft of hair.
a^5. Abdomen with dorsal tufts .. 26. EUPITHECIA, p. 398.
b^5. Abdomen without dorsal tufts. 23. POMASIA, p. 387.
b^4. Frons rounded and smooth.
a^5. Fore wing long and narrow, the apex produced; antennæ of male pectinate.......... 40. STERRHA, p. 423.
b^5. Fore wing broad, the apex not produced; antennæ of male ciliated.............. 33. HYDRELIA, p. 412.
b^3. Hind wing with vein 5 from below middle of discocellulars, which are angled.................... 34. VENUSIA, p. 415.
b'. Hind tibiæ with the medial or both pairs of spurs absent.
a^2. Fore wing with vein 11 not anastomosing with 12.
a^3. Palpi with the 2nd joint at least twice the length of head; abdomen very long; male usually with a lobe at base of hind wing .... 32. SAURIS, p. 408.
b^3. Palpi with the 2nd joint less than twice the length of head; abdomen hardly longer than the hind wing; male with a small fold at base of hind wing .... 27. TRICHOPTERIGIA, [p. 403.
b^2. Fore wing with vein 11 anastomosing with 12..................... 24. GYMNOSCELIS, [p. 388.
c. Fore wing with veins 10 and 11 anastomosing with 8, 9 to form a small areole, or stalked with them.
a'. Fore wing with vein 7 stalked with 6; hind wing with the cell normal .... 15. CATACLYSME, [p. 348.
b'. Fore wing with vein 7 stalked with 8, 9, 10, 11.
a^2. Palpi porrect, more than twice the length of head; the 2nd joint thickly haired .... 10. HYPENORHYNCHUS, [p. 340.
b^2. Palpi upturned and reaching vertex of head; hind tibiæ of male with one pair of spurs; hind wing with veins 3, 4 and 6, 7 on long stalks .. 36. POLYNESIA, p. 418.
c^2. Palpi short and porrect; hind tibiæ of male with two pairs of spurs.
a^3. Fore wing with vein 6 from or from above angle of cell.
a^4. Fore wing with the apex not falcate nor the outer margin excised .... 37. CAMBOGIA, p. 419.
b^4. Fore wing with the apex falcate, the outer margin excised below apex .... 38. HASTINA, p. 422.

b^3. Fore wing with vein 6 from below angle of cell; hind wing of male with vein 5 absent, 6 from below the angle .... 29. MICROLOBA, p. 405.

Genus LEPTOSTEGNA.

Leptostegna, *Christ, Bull. Soc. Nat. Mosc.* lv, 2, p. 86 (1880).

Type, *L. tenerata*, Christ.

Range. Amur; Sikhim.

Palpi clothed with hair and not reaching beyond the frons, which is rounded; antennæ of male serrate and fasciculate; hind tibiæ with two pairs of spurs. Fore wing with the apex acute and produced; vein 3 from before angle of cell; the discocellulars angled above vein 5; 6 from the areole; 10 and 11 stalked, 10 anastomosing with 7, 8, 9 to form the areole. Hind wing with the inner area somewhat reduced; vein 3 from before angle of cell; 5 from below middle of discocellulars, which are angled; 6, 7 on a long stalk; 8 connected with 7 by a bar beyond middle of cell and bifurcating near apex.

3591. **Leptostegna tenerata**, *Christ, Bull. Soc. Nat. Mosc.* lv, 2, p. 88.

Dyspteris asiatica, *Warr. P. Z. S.* 1893, p. 358, pl. 31, fig. 8.

♂. Blue-green; the antennæ ochreous; abdomen suffused with white. Fore wing with the costa ochreous; indistinct diffused waved white medial, postmedial, and submarginal lines. Hind wing white, slightly tinged with green and with indistinct submarginal and marginal green bands.

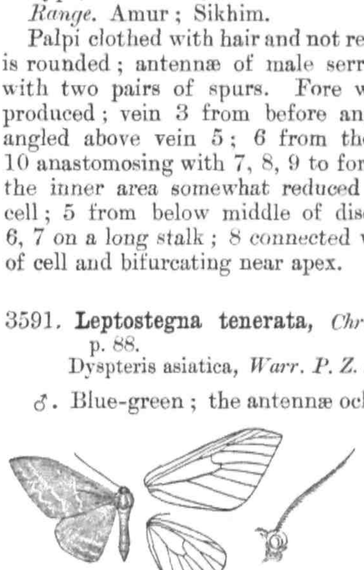

Fig. 162.—*Leptostegna tenerata*, ♂. ½.

Hab. Amur; Sikhim. *Exp.* 32 millim.

Genus PSEUDEUCHLORA, nov.

Type, *P. kafebera*, Swinh.

Range. Khásis.

Palpi hardly reaching beyond the frons, which is rounded; antennæ of male somewhat thickened; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from before angle of cell; 6 from upper angle; 10 and 11 stalked, 10 anastomosing with 7, 8, 9 to form the single areole. Hind wing with vein 3 from before angle of cell; 5 from below middle of discocellulars, which are angled; 6, 7 on a long stalk; 8 connected with 7 by a bar beyond middle of cell; the outer margin slightly angled at vein 4.

3592. **Pseudeuchlora kafebera**, *Swinh. Trans. Ent. Soc.* 1894, p. 177.

♂. White, with green markings; the frons fuscous; wings semihyaline. Fore wing with some diffused green on basal area; a medial green band not reaching the costa, very broad below costa and narrowing to inner margin, the median nervure and veins 3 and 4 white on the band; beyond the medial band is a white band, then a green marginal band with a waved white line and the veins crossing it white. Hind wing with the base white, then a green medial band broad at middle and with the veins at end of cell white; a postmedial white band; the outer area green, with waved white line, and the veins crossing it white.

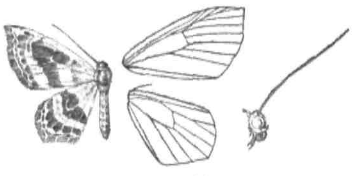

Fig. 163.
Pseudeuchlora kafebera, ♂. ½.

Hab. Khásis. *Exp.* 32 millim.

Genus NAXIDIA, nov.

Type, *N. punctata*, Butl.

Range. Japan; Sikhim; Nágas.

Palpi minute and not reaching beyond the frons, which is rounded: antennæ of male somewhat thickened and flattened; hind tibiæ with two pairs of spurs. Fore wing with the apex rounded; vein 3 from before angle of cell; 5 from middle of discocellulars; 7, 8, 9 stalked, and 10, 11 stalked and anastomosing with them to form an areole. Hind wing with vein 3 from near angle of cell; 5 from below middle of discocellulars, which are angled; 6, 7 from upper angle; 8 connected with 7 by a bar at middle of cell.

3593. **Naxidia punctata**, *Butl. A. M. N. H.* (5) vi, p. 128; *id. Ill. Het.* vi, pl. 117, fig. 1; *C. & S.* no. 3592.

Dirty white. Fore wing with the costal and outer areas slightly irrorated with fuscous; a black basal speck; antemedial and medial oblique series of three specks; a postmedial oblique series of eight specks, the one on vein 2 displaced towards the base; submarginal and marginal series of specks. Hind wing with the outer area slightly suffused with fuscous, and with a series of fuscous specks on the margin; underside with cell-spot and postmedial waved line highly angled at vein 5.

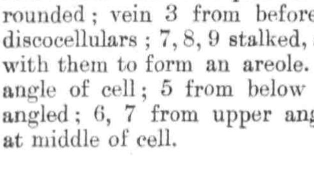

Fig. 164.
Naxidia punctata, ♂. ½.

Hab. Sikhim; Nágas. *Exp.* 38 millim.

3594. **Naxidia irrorata**, *Moore, Lep. Atk.* p. 251; *C. & S.* no. 3591.

♂. Differs from *punctata* in the fore wing being thickly irrorated with olive-fuscous; the series of specks less prominent.

♀. With the hind wing pale fuscous and with indistinct angled postmedial and curved submarginal lines.

Hab. Sikhim; Nágas. *Exp.*, ♂ 32, ♀ 40 millim.

Genus DYSETHIA.

Myostoma, *Warr. P. Z. S.* 1893, p. 346 (præocc.).
Dysethia, *Warr. P. Z. S.* 1893, p. 347.

Type, *D. bicommata*, Warr.

Range. Sikhim; Khásis; Nágas.

Palpi porrect, reaching just beyond the frons, which is rounded: hind tibiæ with two pairs of spurs. Fore wing with the costa arched; vein 1 *a* forming a large fork with 1 *b*; 3 from near angle of cell; vein 10 anastomosing with 11 and then with 8, 9 to form the double areole. Hind wing of male with veins 1 *a* and *b* much reduced by absorption of the margin; 3, 4, 5 radiating from the angle of the cell; 6 from much below upper angle; 8 connected with 7 by an oblique bar: female with the inner area normal; vein 5 from middle of discocellulars; 6 from upper angle.

SECT. I. (*Dysethia*). Palpi thickly scaled; fore wing with the outer margin very long.

A. *Antennæ of male ciliated.*

3595. **Dysethia bicommata**, *Warr. P. Z. S.* 1893, p. 348, pl. 32, fig. 1.

♂. Purplish brown. Fore wing with the veins ochreous; an oblique dark antemedial line, slightly angled on median nervure and vein 1; a triangular medial patch on the costa, with a spot on the discocellulars below it; a curved postmedial line arising from a triangular costal patch; an indistinct pale dentate submarginal line. Hind wing pale suffused with fuscous, and with an oblique diffused postmedial line.

♀. Hind wing darker, with the postmedial line well defined.

Hab. Sikhim; Nágas. *Exp.*, ♂ 38, ♀ 42 millim.

B. *Antennæ of male bipectinated with short stiff branches.*

3596. **Dysethia ocyptaria**, *Swinh. A. M. N. H.* (6) xii, p. 157.

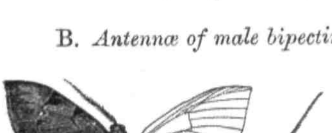

Fig. 165.—*Dysethia ocyptaria*, ♂. ½.

♂. Differs from *bicommata* in being darker; fore wing with the veins dark, the lines and triangular patches obscured; the hind wing darker.

Hab. Sikhim; Khásis; Nágas. *Exp.* 36 millim.

SECT. II. (*Myostoma*). Palpi slender; antennæ of male ciliated; fore wing with the outer margin shorter and excurved at middle.

3597. **Dysethia straminea,** *Warr. P. Z. S.* 1893, p. 347.

Ochreous, with slight brown irroration. Fore wing with traces of a waved antemedial line arising from a brown spot on costa; a medial spot on costa; traces of a slightly sinuous postmedial line ending in a brown spot on inner margin. Hind wing paler, with speck at end of cell and indistinct curved submarginal band.

Hab. Sikhim. *Exp.* 24 millim.

Genus CRYPTOLOBA.

Cryptoloba, *Warr. P. Z. S.* 1893, p. 343.
Isoloba, *Warr. P. Z. S.* 1893, p. 345.

Type, *C. ærata*, Moore.

Range. Himalayas; Nilgiris.

Palpi porrect, clothed with hair, and reaching well beyond the sharp frontal tuft; antennæ of male bipectinated to near apex. Fore wing with vein 3 from before angle of cell. Hind wing of male with the inner area reduced to a small lobe, or rarely a fold at base; 2 running to the functional anal angle, 3 from near angle of cell; 6, 7 from upper angle; 8 connected with 7 by an oblique bar.

SECT. I. (*Cryptoloba*). Fore wing with vein 10 anastomosing with 11 and then with 8, 9 to form the double areole; hind wing with vein 5 from above angle of cell; antennæ bipectinated in both sexes.

3598. **Cryptoloba ærata,** *Moore, P. Z. S.* 1867, p. 654; *C. & S.* no. 3758.

Cryptoloba minor, *Warr. P. Z. S.* 1893, p. 344.

♂. Head, thorax, abdomen, and fore wing clothed with fuscous and yellow scales. Fore wing suffused with golden yellow and with sinuous antemedial, crenulate postmedial, and lunulate submarginal yellow lines; oblique antemedial and medial, and curved submarginal and marginal pale blue spots; a blue spot at end of cell. Hind wing ochreous, thickly irrorated and blotched with fuscous; both wings with the cilia orange and fuscous. Underside of fore wing fuscous; the costal and outer areas suffused with pale golden yellow. Hind wing whitish, irrorated with black and suffused with golden yellow; the veins yellow; a black spot at end of cell; postmedial and submarginal diffused fuscous lines.

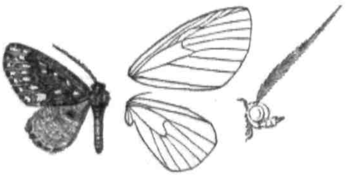

Fig. 166.—*Cryptoloba ærata*, ♂. $\frac{1}{1}$.

Hab. Sikhim; Khásis, 7000–10,000 feet. *Exp.* 30 millim.

SECT. II. (*Isoloba*). Fore wing with vein 10 stalked with 11, and anastomosing with 8, 9 to form the areole.

A. *Hind wing with vein 5 from above angle of cell.*

a. *Antennæ of female bipectinated.*

3599. **Cryptoloba cinerea**, *Butl. A. M. N. H.* (5) vi, p. 228; *id. Ill. Het.* vi, pl. 120, fig. 4; *C. & S.* no. 3805.

Leaden grey. Fore wing irrorated with a few black scales; the costa ochreous, with black strigæ; pale rufous waved ante- and postmedial lines arising from prominent short black lines from the costa, and with a few dark specks on them. Hind wing paler. Underside of hind wing and costal area of fore wing pale, with dark irroration.

The Dharmsála form is smaller, darker, and with the hind wing dark.

Hab. Dharmsála; Sikhim. *Exp.* 20–22 millim.

b. *Antennæ of female simple.*

a'. *Fore wing with vein 11 not anastomosing with 12; hind wing of male with a lobe at base.*

3600. **Cryptoloba bifasciata**, *Warr. P. Z. S.* 1893, p. 345, pl. 32, fig. 18.

Ochreous, irrorated with fuscous. Fore wing with rufous antemedial line; a black spot on discocellulars; oblique rufous postmedial line, with a diffused fuscous blotch beyond it; an oblique fuscous streak from apex. Hind wing pale, with slight fuscous irroration; a speck at end of cell; both wings with the cilia chequered yellow and black.

Hab. Sikhim. *Exp.* 30 millim.

b'. *Fore wing with vein 11 anastomosing with 12; hind wing of male with a fold at base.*

3601. **Cryptoloba indicaria**, *Guér. Voy. Deless., Hist. Nat.* p. 97, pl. 26, fig. 4.

Eupithecia bifasciata, *Hmpsn. Ill. Het.* viii, p. 118, pl. 152, fig. 13.

♂. Pale olive-green, irrorated and in parts suffused with fuscous. Fore wing with antemedial fuscous band diffused inwards and bounded by a sinuous line; an olive and fuscous medial band bounded inwardly by a sinuous black line, with a bidentate black mark at lower angle of cell, and two black dentitions on its outer edge at veins 3, 4; a diffused submarginal band; black specks on costa before apex, on outer margin below apex, and at middle. Hind wing with diffused subbasal band; the outer half almost covered by diffused conjoined postmedial and submarginal bands.

Hab. Nilgiris. *Exp.* 20 millim.

B. *Hind wing with vein 5 from angle of cell.*

3602. **Cryptoloba trinotata**, *Warr. P. Z. S.* 1893, p. 344, pl. 32, fig. 12.

♂. Head, thorax, and fore wing pale rufous, irrorated with black; abdomen fuscous. Fore wing with the basal area chestnut, bounded by an indistinct waved chestnut line; antemedial, postmedial, and submarginal black spots on the costa; a chestnut submarginal line obsolescent towards costa; some blackish marks on the margin. Hind wing whitish, with slight fuscous irroration; a medial purplish-fuscous band from vein 6 to inner margin; the outer area purplish fuscous, with some of the pale ground-colour near anal angle. Underside with the disk of fore wing fuscous. Hind wing with broad postmedial fuscous band.

Hab. Sikhim. *Exp.* 22 millim.

3603. **Cryptoloba subusta**, *Warr. P. Z. S.* 1893, p. 344.

♂. Purplish grey. Fore wing with faint olive-brown antemedial line with some black marks on its outer edge; a black speck at end of cell; a curved postmedial olive-brown band, with black marks on its inner and outer edges; some submarginal black marks between vein 4 and the outer angle. Hind wing whitish with black speck at end of cell, and indistinct curved fuscous postmedial line.

Hab. Bhután, 9000 feet. *Exp.* 20 millim.

Genus LOBOGONIA.

Lobogonia, *Warr. P. Z. S.* 1893, p. 345.

Type, *L. ambusta*, Warr.

Range. Khásis.

Differs from *Cryptoloba* in the outer margin of each wing being angled and produced at vein 4; fore wing with the areole single; hind wing with vein 5 from middle of discocellulars; 3, 4 shortly stalked.

3604. **Lobogonia ambusta**, *Warr. P. Z. S.* 1893, p. 346, pl. 31, fig. 21.

♂. Olive-yellow, slightly irrorated with fuscous. Fore wing with pale rufous ante- and postmedial lines arising from black spots on the costa, the former slightly waved, the latter with a black spot beyond it at middle; traces of a waved submarginal line. Hind wing paler, with fuscous speck at end of cell and medial line; cilia of both wings rufous and black. Underside suffused with rufous, and with the veins rufous.

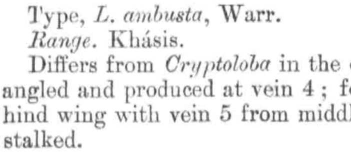

Fig. 167.—*Lobogonia ambusta*, ♂. ¾.

Hab. Khásis. *Exp.* 26 millim.

Genus **SYZEUXIS**, nov.

Type, *S. trinotaria*, Moore.
Range. Sikhim; Khásis.
Palpi reaching far beyond the frons and triangularly scaled; antennæ of male bipectinate, with long branches to three-fourths length; hind tibiæ with two pairs of spurs. Fore wing with the outer margin oblique; vein 3 from near angle of cell; 5 from above middle of discocellulars; 6 from above upper angle; 10, 11 anastomosing with 8, 9 to form the areole. Hind wing with the outer margin rounded; vein 3 from angle of cell; 5 from above middle of discocellulars; 6, 7 stalked; 8 connected with 7 by a bar beyond middle of cell.

3605. **Syzeuxis trinotaria**, *Moore, P. Z. S.* 1867, p. 650; *C. & S.* no. 3693.

♂. Olive-brown. Fore wing with small dark red-brown sub-basal spot on costa; large ante- and postmedial triangular spots and two specks near apex; cilia dark, except at vein 5. Hind wing reddish, with speck at end of cell, and post-medial fuscous band usually not extending to costa; the cilia dark. Underside of fore wing with postmedial band not extending to costa or inner margin.

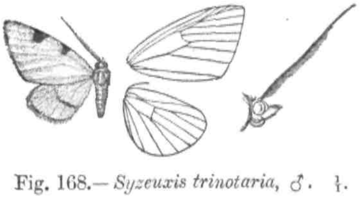
Fig. 168.—*Syzeuxis trinotaria*, ♂. ¾.

♀ with the fore wing green.
Hab. Sikhim; Khásis. *Exp*., ♂ 28–38, ♀ 44 millim.

Genus **GONIOPTEROLOBA**, nov.

Type, *G. zalska*, Swinh.
Range. Sikhim; Khásis.
Differs from *Lobogonia* in having veins 7, 8, 9, 10, 11 of the fore wing stalked, no areole being present; hind wing with vein 3 from just before angle of cell; 5 from just above angle.

3606. **Goniopteroloba zalska**, *Swinh. Trans. Ent. Soc.* 1894, p. 185.

♂. Reddish ochreous, irrorated with fuscous. Fore wing with slightly sinuous reddish postmedial line, with a quadrate black patch beyond it between veins 3 and 4; a pale submarginal line from vein 6 to outer angle, with some blackish suffusion beyond it. Hind wing redder, with indistinct medial line.

Fig. 169.
Goniopteroloba zalska, ♂. ¾.

Hab. Sikhim; Khásis. *Exp*. 24 millim.

Genus **CARIGE.**

Carige, *Wlk. Cat.* xxvi, p. 1631 (1862).

Type, *C. cruciplaga*, Wlk.

Range. Siberia; Japan; N. China; Sikhim; Khásis; Penang.

Differs from *Lobogonia* in the outer margin of each wing being less angled at vein 4. Hind wing with vein 3 from just before angle of cell; 5 from just above angle; 6, 7 stalked. Female with vein 5 of the hind wing from the middle of discocellulars; the inner margin not aborted; antennæ with short branches.

3607. **Carige cruciplaga,** *Wlk. Cat.* xxiii, p. 937.
Carige duplicaria, *Wlk. Cat.* xxvi, p. 1632.
Macaria nigronotaria, *Brem. Lep. Ost-Sib.* p. 80, pl. vii, fig. 6.
Macaria irrorata, *Butl. A. M. N. H.* (5) 4, p. 440.
Carige lunulineata, *Moore, Lep. Atk.* p. 263, pl. 8, fig. 26; *C. & S.* no. 3657.

Yellowish grey, irrorated with black. Fore wing with double lunulate ante- and postmedial black lines, filled in with yellow, the lunules on the postmedial lines largest; a speck at end of cell; black marginal patches below apex and above outer angle, with a pale submarginal line on them. Hind wing with cell-spot and double lunulate curved black postmedial line filled in with yellow; both wings with marginal yellow line.

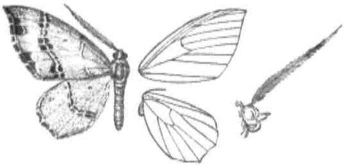

Fig. 170.—*Carige cruciplaga*, ♂. 1/1.

The form *duplicaria* has submarginal black lunules more or less developed on each wing, and the marginal patches of fore wing almost obsolete.

Hab. Siberia; Japan; China; Sikhim; Khásis; Penang. *Exp.* 30–35 millim.

3608. **Carige rachiaria,** *Swinh. Trans. Ent. Soc.* 1891, p. 492.

♂. Differs from *cruciplaga* in being bright rufous; wings with the veins pale. Fore wing with the antemedial double line absent; the postmedial line of both wings obsolescent, except at costa and middle of fore wing and the inner margin of both wings; a submarginal series of black and yellow lunules; an oblique streak from the apex of fore wing, but no marginal patches.

Hab. Khásis. *Exp.* 32 millim.

Genus **HYPENORHYNCHUS**, nov.

Type, *H. erectilineatum*, Moore.

Range. Khásis.

Palpi porrect, the 2nd joint twice the length of head, and thickly clothed with hair; antennæ nearly simple (legs wanting); wings long and narrow. Fore wing with vein 3 before angle of

cell; 7, 8, 9, 10, 11 stalked from before upper angle. Hind wing with vein 3 before angle of cell; 5 from middle of discocellulars; 6, 7 on a long stalk; 8 anastomosing with 7 to near end of cell.

3609. **Hypenorhynchus erectilineatum**, *Moore, Lep. Atk.* p. 272; *C. & S.* no. 3806.

♂. Grey, palpi at sides and bands on fore legs brown. Fore wing with erect ante- and postmedial diffused brown lines, with some rufous on their outer edges; traces of a submarginal line; a marginal brown line; a brown cell-speck; cilia grey, intersected with brown. Hind wing with traces of medial line.

Hab. Khásis. *Exp.* 20 millim.

Genus **ANAITIS**.

Anaitis, *Dup. Cat. Lép. Eur.* p. 247 (1844).
Eucestia, *Hübn. Verz.* p. 322 (? 1818), non descr.
Carsia, *Hübn. Verz.* p. 336.
Docirava, *Wlk. Cat.* xxvi, p. 1635 (1862).

Type, *A. paludata*, Thnb., from Europe.

Range. Palæarctic region; Afghanistan; N.W. Himalayas; Sikhim.

Palpi porrect, clothed with hair, and reaching well beyond the sharp frontal tuft; antennæ of male long, thickened, and flattened; hind tibiæ with two pairs of spurs. Fore wing with the apex acute; the costa oblique, and the outer margin long; vein 3 from before angle of cell; 6, 7 from the areole; 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing of male with the inner area reduced to a small vesicular lobe at base; vein 3 from before angle of cell; 5 from middle of discocellulars; 6, 7 stalked; female with the inner area normal; vein 8 anastomosing with 7.

The typical species is without the apical hook to fore tibia.

SECT. I. (*Docirava*). Hind wing of male with vein 8 connected with 7 by a bar beyond middle of cell.

3610. **Anaitis æquilineata**, *Wlk. Cat.* xxvi, p. 1635; *Butl. Ill. Het.* vi, pl. 120, fig. 5; *C. & S.* no. 3902.

Brown, irrorated with grey. Fore wing with an oblique ochreous rufous-edged medial band from subcostal to inner margin; a similar band from apex to inner margin beyond middle. Abdomen and hind wing ochreous; the latter with indistinct curved postmedial line.

Hab. N.W. Himalayas. *Exp.* 40 millim.

3611. **Anaitis pudicata**, *Guen. Phal.* ii, p. 497; *C. & S.* no. 3908.
Aspilates uvaria, *Wlk. Cat.* xxvi, p. 1681; *C. & S.* no. 3905.
Anaitis vastata, *Wlk. Cat.* xxxv, p. 1700.

Differs from *æquilineata* in the palpi being crimson at sides. Fore wing with the costal and outer areas suffused with crimson;

an oblique antemedial ochreous line; a pale speck at end of cell; an oblique postmedial ochreous line excurved beyond end of cell. Hind wing tinged with crimson. Underside with the hind wing and the subapical area of fore wing crimson; the costa of fore wing and the outer area of both wings ochreous.

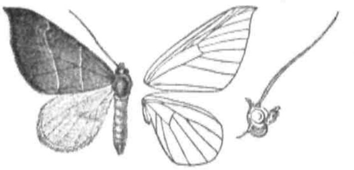

Fig. 171.—*Anaitis pudicata*, ♂. ½.

Hab. Afghanistan; N.W. Himalayas; Sikhim. *Exp.* 34–50 millim.

3612. **Anaitis fulgurata**, *Guen. Phal.* ii, p. 498; *C. & S.* no. 3907.
Anaitis macrocalata, *Wlk. Cat.* xxv, p. 1447; *C. & S.* no. 3903.
Orsonoba medmaria, *Wlk. Cat.* xxvi, p. 1521; *C. & S.* no. 3904.
Eubolia reciproca, *Wlk. Cat.* xxxv, p. 1698.

Head, thorax, and abdomen fuscous, irrorated with grey. Fore wing chocolate-brown; a grey fascia below median nervure to end of cell; a grey antemedial line much recurved at median nervure; a broad blackish postmedial band with a grey band occupying its middle, on which is a dark discocellular striga; the dark band is edged by grey and black lines, the inner edge angled outwards at lower angle of cell, then much retracted towards base, the outer edge sinuous and angled outwards at vein 4; a whitish apical patch; the outer margin greyish. Hind wing ochreous white.

Hab. N.W. Himalayas; Sikhim. *Exp.*, ♂ 42, ♀ 50 millim.

3613. **Anaitis roseifascia**, n. sp.

♀. Head and thorax bright pink; abdomen fuscous. Fore wing orange; the base bright pink; a broad pink medial band with fuscous edges, narrowing from vein 2 to inner margin; a submarginal series of pink marks; the cilia pink. Hind wing white, with the cilia pink.

Hab. Sikhim, 12,000 feet (*Knyvett*). *Exp.* 34 millim. Type in coll. Elwes.

Sect. II. (*Anaitis*). Hind wing of male with vein 8 anastomosing with 7; fore tibia with a strong apical hook.

3614. **Anaitis plagiata**, *Linn. Syst. Nat.* i, 2, p. 869.
Anaitis efformata, *Guen. Phal.* ii, p. 500; *C. & S.* no. 3907 A.

Grey, irrorated with fuscous. Fore wing with an oblique subbasal dark line expanding into a subtriangular patch at costa, with an indistinct double line excurved below costa beyond it; a treble medial sinuous dark line, with dark patches on it at costa and middle; a similar postmedial treble line, excurved below costa, without the dark patch at middle and with its outer line more sinuous; an oblique diffused rufous streak from apex; an indis-

tinct double waved submarginal line. Abdomen and hind wing brownish grey, the latter with traces of pale postmedial line. Underside slightly tinged with crimson.

The European form usually has the dark lines and patches of fore wing more prominent and the latter tinged with rufous.

Hab. Europe; Syria; Japan; Afghanistan; N.W. Himalayas. *Exp.* 36–46 millim.

3615. **Anaitis postochrea**, n. sp.

♂. Head and thorax grey-brown; abdomen fulvous. Fore wing bright chestnut, suffused with purplish grey; an indistinct obliquely waved subbasal line; an oblique antemedial line, with clear chestnut beyond its costal portion; sinuous medial and postmedial lines, the latter with clear chestnut inside its costal portion and a grey apical patch beyond it; two waved submarginal lines. Hind wing bright ochreous.

Hab. Kúlú, 9000 feet. *Exp.* 38 millim. Type in coll. Elwes.

Genus **EUBOLIA**.

Eubolia, *Dup. Cat. Lép. Eur.* p. 248 (1844).
Onychia, *Hübn. Verz.* p. 334 (? 1818), non descr.
Ortholitha, *Hübn. Verz.* p. 338.

Type, *E. limitata*, Scop., from Europe.

Range. Europe; S. Africa; Madagascar; Himalayas.

Palpi roughly scaled and reaching beyond the short frontal tuft; antennæ of male bipectinated, with short branches to near apex; hind tibiæ with two pairs of spurs. Fore wing with the apex somewhat produced and the outer margin oblique; vein 3 from near angle of cell; 5 from above middle of discocellulars; 6 from or from above angle of cell; 10 anastomosing with 11 and then with 8, 9 to form the double areole. Hind wing with vein 3 from near angle of cell; 5 from above middle of discocellulars; 6, 7 stalked; 8 anastomosing with 7 to beyond middle of cell.

3616. **Eubolia nasifera**, *Warr. P. Z. S.* 1888, p. 331; *C. & S.* no. 3911 A.

♂. Grey. Fore wing with the basal area tinged with pale brown; an indistinct waved antemedial line; a broad postmedial dark band with a grey band on its middle bearing two black discocellular specks; the dark band is edged by grey and dark lines, the inner edge sinuous and angled in the cell, the outer edge highly angled below vein 4, then greatly incurved; an oblique dark streak from apex, and two indistinct slightly waved submarginal lines. Hind wing brownish grey, with indistinct postmedial line angled below vein 4, and pale submarginal line.

Hab. Thundiáni, Punjab. *Exp.* 34 millim.

3617. **Eubolia duplicata**, *Warr. P. Z. S.* 1893, p. 385.

Head, thorax, and abdomen grey and fuscous. Fore wing with

the costa fuscous brown to near apex; the basal area covered with indistinct whitish and dark lines; an oblique white line from upper angle of cell to inner margin before middle, enclosing a black triangular patch between it and the broad oblique medial white band, which bears a black discocellular striga, the area beyond it black to the sinuous post-medial white line, which has whitish and fuscous lines beyond it; outer area blackish, with a pale straight submarginal line. Hind wing whitish, with slight dark marks at apex and anal angle and fine marginal line. Underside suffused with rufous; hind wing with discocellular speck and postmedial line.

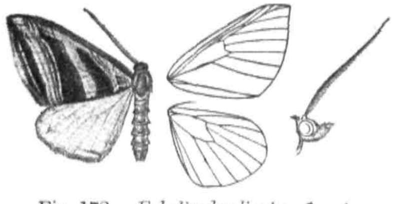

Fig. 172.—*Eubolia duplicata*, ♂. ½.

Hab. Chumbi, Tibet. *Exp.* 40 millim.

Genus SCOTOSIA.

Scotosia, *Steph. Ill. Brit. Ent., Haust.* iii, p. 259 (1829).
Philereme, *Hübn. Verz.* p. 330 (? 1818), non descr.
Triphosa, *Steph. Ill. Brit. Ent., Haust.* iii, p. 261.

Type, *S. rhamnata*, Schiff., from Europe.

Range. Nearctic and Palæarctic regions; Afghanistan; N.W. Himalayas; Sikhim; Khásis; Nilgiris.

Palpi clothed with hair and reaching well beyond the frontal tuft; antennæ of male usually simple; hind tibiæ with two pairs of spurs; wings with the outer margins crenulate. Fore wing with vein 3 from before angle of cell; 5 from middle of discocellulars; 6 from just above angle of cell; 10 anastomosing with 11 and then with 8, 9 to form the double areole. Hind wing with vein 3 from before angle of cell; 5 from above lower angle, the discocellulars being highly angled; 6, 7 stalked; 8 anastomosing with 7.

SECT. I. (*Scotosia*). Male with the claspers large and exserted.

3618. **Scotosia dubiosata**, *Wlk. Cat.* xxv, p. 1352; *C. & S.* no. 3818.
Scotosia sideritaria, *Oberth. Et. Ent.* x, p. 34, pl. 1, fig. 13.

Grey-brown. Fore wing of male with the retinaculum consisting of a corneous plate with a pit in the wing-membrane over it; indistinct double subbasal and antemedial waved lines; a broad medial slightly darker band with waved grey edges and traces of waved lines on it; two indistinct dark waved lines beyond the band

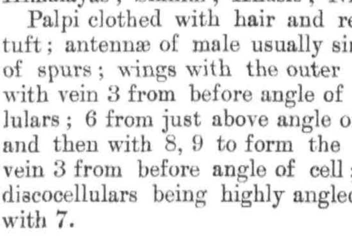

Fig. 173.—*Scotosia dubiosata*, ♂. ½.

and a waved grey submarginal line. Hind wing with four indistinct waved postmedial lines, and a waved grey submarginal line.

A variety has the antemedial and marginal areas of fore wing suffused with pale rufous.

Hab. Afghanistan; N.W. Himalayas; Sikhim; Nilgiris. *Exp.*, ♂ 40–44, ♀ 46–48 millim.

SECT. II. (*Triphosa*). Male with the claspers normal.

A. *Male with the antennæ simple.*

a. *Male with no tuft on vein* 1 *b of hind wing below.*

3619. **Scotosia rubrodotata**, *Wlk. Cat.* xxv, p. 1353; *C. & S.* no. 3825.
Scotosia venimaculata, *Moore, P. Z. S.* 1867, p. 657; *C. & S.* no. 3828.
Scotosia expansa, *Moore, Lep. Atk.* p. 274; *C. & S.* no. 3819.

Glossy grey-brown in the form *expansa*, darker and suffused in the form *venimaculata*; in *rubrodotata* with the medial band of fore wing dark crimson. Fore wing with numerous waved lines; the antemedial and postmedial lines delineating a slightly darker medial area; the veins of outer area speckled with white. Hind wing with traces of numerous waved lines on the outer third, and the veins speckled with white.

Hab. Punjab; Sikhim. *Exp.* 60–66 millim.

b. *Male with a fringe of long hair on middle of vein* 1 *b of hind wing below.*

3620. **Scotosia tremulata**, *Guen. Phal.* ii, p. 448; *C. & S.* no. 3827.

Greyish fuscous. Fore wing with numerous waved lines; ante- and postmedial bands from costa to median nervure, being formed by the spaces between two of the antemedial and three of the medial lines being filled in with fuscous; a waved grey submarginal line developed into four white spots on inner half of wing. Hind wing with indistinct waved lines on outer area; the veins speckled with fuscous and grey; a waved grey submarginal line.

Hab. Abbottabad; Sikhim. *Exp.*, ♂ 44, ♀ 50 millim.

B. *Male with the antennæ bipectinated to two-thirds length.*

3621. **Scotosia sordidata**, *Moore, Lep. Atk.* p. 274; *C. & S.* no. 3826.

♂. Ochreous brown, suffused with pinkish brown and fuscous; wings with numerous indistinct waved fuscous lines. Fore wing with the medial area somewhat darker, broadest at costa, and with waved grey edges, the outer edge being highly angled at vein 4, and with a waved dark line beyond it. Hind wing with grey medial line angled at veins 6 and 4; both wings with submarginal series of grey specks and marginal dark line. Underside paler, with the dark lines more prominent.

Hab. Sikhim; Khásis. *Exp.* 40 millim.

Genus PHIBALAPTERYX.

Phibalapteryx, *Steph. Ill. Brit. Ent., Haust.* iii, p. 255 (1829).
Cœnocalpe, *Hübn. Verz.* p. 330 (? 1818), non descr.
Collix, *Guen. Phal.* ii, p. 357 (1857).

Type, *P. tersata*, Schiff., from Europe.

Range. Universally distributed.

Palpi porrect, roughly scaled, and reaching beyond the short frontal tuft; antennæ of male thickened and flattened; hind tibiæ with two pairs of spurs. Fore wing produced at apex, the outer margin oblique; vein 3 from close to angle of cell; 6 from upper angle; 10 anastomosing with 11 and then with 8, 9 to form the double areole. Hind wing narrow; the margin crenulate; vein 3 from before end of cell; 5 from above middle of discocellulars; 6, 7 stalked; 8 anastomosing with 7 to near end of cell.

SECT. I. (*Phibalapteryx*). Palpi with the 2nd joint hardly reaching beyond the frons; mid tibiæ of male not dilated; abdomen not elongate, and with normal anal tuft.

3622. **Phibalapteryx plurilineata**, *Moore, Lep. Atk.* p. 273; *C. & S.* no. 3901.
Phibalapteryx nigripunctata, *Warr. P. Z. S.* 1888, p. 328; *C. & S.* no. 3900 A.
Phibalapteryx nigrovittata, *Warr. P. Z. S.* 1888, p. 327; *C. & S.* no. 3900 B.

♂. Dark red-brown, slightly suffused with fuscous; prothorax with a black band; 1st segment of abdomen with a deep black band. Fore wing with very numerous obliquely waved lines; the veins speckled with black and grey; a black speck at end of cell and black mark beyond lower angle; an indistinct irregularly waved grey submarginal line. Hind wing with numerous waved lines, a postmedial line from vein 4 to inner margin being prominent and black; a speck at end of cell; an indistinct waved grey submarginal line.

♀ with the disk of fore wing and outer area below apex suffused with fuscous black, except on the veins.

Hab. N.W. Himalayas; Khásis. *Exp.*, ♂ 30–34, ♀ 30–44 millim.

3623. **Phibalapteryx suffusa**, *Hmpsn. Ill. Het.* viii, p. 122, pl. 153, figs. 15, 23.

Differs from *hypospilata* in being redder brown; the cell-spots absent; the waved lines somewhat angled below costa of fore wing; hind wing with greyish and black postmedial band on inner area and on anal segment of abdomen. Underside greyish fuscous, with prominent black cell-spots; indistinct curved postmedial fuscous line and diffused submarginal band, with a series of grey specks on its outer edge.

The female usually has broad white bands on thorax and base of abdomen, diffused white on the basal area of fore wing, a large patch below costa of fore wing near apex, and white postmedial and submarginal specks to each wing.

Hab. Nilgiris; Ceylon. *Exp.*, ♂ 34, ♀ 38 millim.

3624. **Phibalapteryx leprosa,** *Hmpsn. Ill. Het.* viii, p. 122, pl. 153, figs. 2, 9.

Differs from *suffusa* in being more suffused with greyish fuscous or greyish white instead of pure white. Underside pale with a maculate black postmedial band, curved on fore wing, highly angled at vein 4 of hind wing; the diffused submarginal band more or less interrupted between veins 3 and 4 of each wing.

Hab. Nilgiris. *Exp.* 30 millim.

3625. **Phibalapteryx hyperythra,** n. sp.

Differs from *hypospilata* in being pale reddish brown, with the waved lines more prominent and the cell-spots absent. Underside suffused with vinous red, with black cell-spots; the postmedial curved band angled at vein 6 of each wing, most prominently on hind wing; fore wing with diffused or dentate submarginal band interrupted between veins 3 and 4; hind wing with some submarginal specks.

Hab. Khásis; Nilgiris; Anamalis. *Exp.*, ♂ 32, ♀ 40 millim.

3626. **Phibalapteryx flavofasciata,** *Moore, Lep. Atk.* p. 270, pl. 8, fig. 25; *C. & S.* no. 3889.

♂. Fuscous, with a purplish tinge; the base and extremity of abdomen green. Both wings with ante- and postmedial minutely waved green bands, the latter with a rufous and black patch between it and lower angle of cell, and sending a green streak to middle of outer margin; a fine waved submarginal line; fore wing with black cell-spot. Underside with black cell-spots and curved postmedial line to each wing.

Hab. Sikhim. *Exp.* 36 millim.

Sect. II. (*Collix*). Palpi with the 2nd joint reaching far beyond the frontal tuft; mid tibiæ of male very much dilated and with a deep groove; abdomen long, with a large anal tuft.

3627. **Phibalapteryx hypospilata,** *Guen. Phal.* ii, p. 358; *Hmpsn. Ill. Het.* ix, pl. 171, fig. 26; *C. & S.* no. 3891.
Collix foraminata, *Guen. Phal.* ii, p. 358.

♂. Dark fuscous, with a slight purplish tinge; wings with numerous indistinct waved black lines. Fore wing with a prominent discocellular boss of raised scales; the veins speckled with pale brown between the waved lines. Hind wing with small discocellular spot; both wings with submarginal series of pale

brown specks and a black marginal line interrupted by pale specks at the veins. Underside fuscous brown; both wings with very

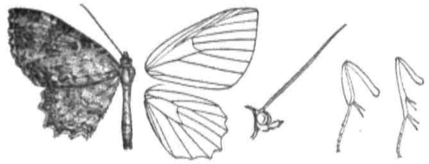

Fig. 174.—*Phibalapteryx hypospilata*, ♂. ½.

prominent black cell-spot, less prominent curved postmedial band, and prominent submarginal series of black spots; the spot between veins 3 and 4 absent.

♀ often with ground-colour brown, or with brown patches in the cell of fore wing and forming an obscure postmedial band to both wings.

Hab. S. Africa; Khásis; Mahableshwar; Nilgiris; Anamalis; Ceylon. *Exp.* 40 millim.

3628. **Phibalapteryx ghosha**, *Wlk. Cat.* xxiv, p. 1249; *Moore, Lep. Ceyl.* iii, pl. 206, figs. 9, 10, 10 *a* (larva); *C. & S.* no. 3890.
Collix stellata, *Warr. Nov. Zool.* p. 679.

Differs from *hypospilata* in the ground-colour being grey-brown; the waved lines more prominent; a postmedial series of pale specks more or less developed, and the submarginal series obsolescent. Underside whitish; the discocellular spots larger; the postmedial band replaced by a series of streaks, which at middle almost join the submarginal spots, which form an almost complete band except between veins 3 and 4.

Larva dark olive-green; *pupa* reddish, with greenish head and wing-cases.

Hab. Khásis; Ceylon; Tenasserim. *Exp.*, ♂ 28, ♀ 28–30 millim.

Genus CATACLYSME.

Cataclysme, *Hübn. Verz.* p. 329 (? 1818).

Type, *C. riguata*, Hübn., from Europe.

Range. Europe: N.W. Himalayas; Khásis.

Palpi roughly scaled and reaching beyond the slight frontal tuft; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from close to angle of cell; 5 from above middle of discocellulars; 6, 7 stalked; 11 anastomosing with 8, 9, 10 to form a small areole. Hind wing with vein 3 from close to angle of cell; 5 from above middle of discocellulars; 6, 7 stalked; 8 anastomosing with 7 to beyond middle of cell.

In the typical section the antennæ of male are slightly thickened and ciliated.

SECT. II. Antennæ of male bipectinated, with short branches dilated at extremity.

3629. **Cataclysme conturbata**, *Wlk. Cat.* xxvi, p. 1703; *C. & S.* no. 3759.

Grey, suffused with fuscous. Fore wing with double waved subbasal, antemedial, and postmedial lines, the area between them tinged with fulvous, the postmedial lines angled at vein 4; a dark spot at end of cell. Hind wing with antemedial, two medial, a postmedial, and submarginal waved dark lines. Underside greyer, with a prominent whitish postmedial band with fuscous on its inner edge, and the area beyond it suffused with fuscous; a speck at end of cell; fore wing with medial line, hind wing with antemedial and medial lines.

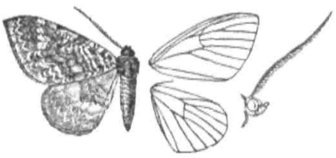

Fig. 175.
Cataclysme conturbata, ♂. ½.

Hab. N.W. Himalayas; Khásis. *Exp.* 36 millim.

SECT. III. Antennæ of male bipectinated, with longer branches which are not dilated; fore wing with the apex more produced and the outer margin oblique.

3630. **Cataclysme obliquilineata**, n. sp.

♂. Ochreous white, slightly irrorated with fuscous. Fore wing with double indistinct oblique subbasal and antemedial lines; a speck at end of cell; six almost straight oblique lines on outer area, of which the third is the most prominent and has ochreous suffusion inside it. Hind wing with three oblique lines on medial area and three on outer area, all obsolete on the costal area. Underside more suffused with fuscous; the lines of hind wing more prominent.

Hab. Dalhousie (*Harford*). *Exp.* 36 millim. Type in B. M.

Genus CIDARIA.

Cidaria, *Treitschke, Eur. Schmett.* vi, 2, p. 140 (1828).
Ochyria, *Hübn. Verz.* p. 334 (? 1818), non descr.
Eustroma, *Hübn. Verz.* p. 335.
Coremia, *Guen. Phal.* ii, p. 408 (1857).
Gnamptopteryx, *Hmpsn. Ill. Het.* ix, p. 155 (1893).
Ecliptopera, *Warr. Nov. Zool.* p. 679 (1894).

Type, *C. designata*, Borkh., from Europe.

Range. Universally distributed.

Palpi clothed with hair and reaching beyond the slight frontal tuft; antennæ of male typically minutely serrate and fasciculated; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from near angle of cell; 5 from above middle of discocellulars; 6 from

or from just above upper angle; 10 anastomosing with 11 an then with 8, 9 to form the double areole. Hind wing with vein from close to angle of cell; the discocellulars oblique, and vein from or from above their middle; 6, 7 stalked.

SECT. I. Antennæ of male almost simple and somewhat thickened

A. *Male with the inner area of fore wing not distorted, nor the costa of hind wing lobed.*

a. *Male without tufts of hair on underside of fore wing.*

a'. *Male with the lateral tufts towards extremity of abdomen greatly developed.*

a². *Male with fringe of long hair on middle of inner margin of hind wing below.*

3631. **Cidaria chalybearia,** *Moore, P. Z. S.* 1867, p. 663; *C. & S* no. 3849.

Dark fuscous, irrorated with purplish grey. Fore wing wit numerous very indistinct waved black lines; subbasal, medial, an submarginal ill-defined bands being formed by the ground-colou being greyish between some of the waved lines; a black striga on discocellulars; some submarginal black and white points; an obscure oblique dark mark from apex. Hind wing dark fuscous, with traces of white submarginal line. Underside dark fuscous with submarginal series of white points.

Hab. Sikhim; Khásis; Nágas. *Exp.*, ♂ 40, ♀ 50 millim.

b². *Male with no fringe of hair on inner margin of hind wing.*

3632. **Cidaria obscurata,** *Moore, P. Z. S.* 1867, p. 663, pl. 33, fig. 7 *C. & S.* no. 3880.

Eustroma monana, *Swinh. A. M. N. H.* (6) xii, p. 224.

♂. Red-brown. Fore wing with numerous indistinct waved dark lines; an ochreous curved subbasal line; the medial area defined by ochreous lines, the inner excurved on median nervure, the outer curved, two of the dark medial lines enclosing annuli and irregular more or less conjoined spots; the submarginal sinuous line with two blackish lunules on it below costa and angled at vein 4; a sinuous line arising from the apex, incurved and enclosing a blackish patch below apex. Hind wing paler brown, with traces of postmedial and submarginal lines almost meeting at anal angle.

Hab. Sikhim; Khásis. *Exp.* 44–50 millim.

3633. **Cidaria muscicolor,** *Moore, Lep. Atk.* p. 276; *C. & S.* no. 3879.

Cidaria subapicalis, *Hmpsn. Ill. Het.* viii, p. 121, pl. 153, fig. 1; *Swinh. A. M. N. H.* (6) xiv, p. 136.

Brown. Fore wing with the apex somewhat produced; the basal area darker, with two nearly straight lines on it; the medial

area darker, its inner and outer edges defined by waved lines, the outer slightly dentate on veins 3 and 1; two irregularly waved dark medial lines, which approach each other at lower angle of cell; a crenulate dark submarginal line; a black crescent on margin from apex to middle, and black spot above outer angle. Hind wing fuscous. Underside with waved postmedial and crenulate submarginal lines; fore wing in the southern form *subapicalis*, Hmpsn., with two prominent black lunules below costa on the submarginal line, with a diffused ochreous patch below them running out from the postmedial line; hind wing with cell-spot, medial and postmedial waved lines, and submarginal series of black lunules.

The Ceylon female is yellower brown, with the basal and medial areas of fore wing not darker.

Hab. Sikhim; Khásis; Nilgiris; Ceylon. *Exp.*, ♂ 36, ♀ 42 millim.

3634. **Cidaria furva,** *Swinh. Trans. Ent. Soc.* 1891, p. 494.

♂. Bright rufous. Fore wing with numerous pale waved lines on basal two-thirds, two of the medial lines being joined at places and enclosing quadrate patches; the postmedial line angled at vein 4, then crenulate to inner margin; outer area with the costal and inner portions olive-grey, the portion between veins 2 and 4 bright rufous; two crenulate rufous submarginal lines; a sinuous dark line from apex to anal angle: the median and submedian nervures and veins 2, 3, 4 streaked with rufous. Hind wing fuscous; the apex pale. Underside ochreous grey; the disk of fore wing fuscous to the postmedial line.

Hab. Khásis; Burma. *Exp.* 42 millim.

3635. **Cidaria fulvidorsata,** *Swinh. MS.*

♂. Head, thorax, and abdomen above pale fulvous. Fore wing fuscous, with two antemedial fine white lines, the inner angled below costa, the outer below cell, the area between them suffused with blue-grey; traces of a medial annulate band diminishing to inner margin; a broad postmedial blue-grey band, inwardly edged by a curved and slightly waved white line, its outer edge running out to the apex and middle of outer margin, leaving a fuscous lunule below the apex and a fulvous one above outer angle. Hind wing whitish, the inner area tinged with fuscous and with traces of waved postmedial and submarginal lines. Underside pale.

Hab. Khásis. *Exp.* 32 millim.

b'. *Male with no strongly developed lateral tufts to abdomen.*

3636. **Cidaria lativittaria,** *Moore, P. Z. S.* 1867, p. 657; *C. & S.* no. 3820.

Fuscous and grey. Fore wing with three indistinct waved lines on basal area; a broad medial black band with waved grey edges,

the inner edge slightly toothed on vein 2, the outer produced beyond lower angle of cell; a submarginal dentate grey line with black patch inside it at costa, and met by an oblique dentate black mark from apex. Hind wing fuscous, with indistinct sinuous postmedial line and submarginal series of whitish spots.

Hab. Sikhim. *Exp.*, ♂ 46, ♀ 54 millim.

3637. **Cidaria albapex**, n. sp.

♂. Fuscous black. Fore wing irrorated with whitish scales; numerous indistinct waved black lines; an oblique series of large conjoined white dashes from costa beyond middle to beyond lower angle of cell, and with a black striga on one at vein 5; the submarginal waved line pale at costa. Hind wing with apical white patch. Underside of fore wing with apical white spot.

♀ with the white patches on fore wing almost obsolete on upperside; the apical patch of hind wing and band and spot of fore wing on underside ochreous.

Hab. Sikhim (*Knyvett*). *Exp.*, ♂ 40, ♀ 46 millim. Type in coll. Elwes.

3638. **Cidaria ochreata**, *Moore, Lep. Atk.* p. 267; *C. & S.* no. 3764.

Head, thorax, and abdomen fuscous, with a few grey scales. Fore wing with subbasal and antemedial minutely waved white black-edged lines; the basal area more or less suffused with grey; a medial olive-fuscous band, with some dark spots or annuli on it, its outer edge irregularly waved and angled below costa and beyond lower angle of cell, a fine black line beyond it; the outer area white, with traces of waved dark lines and the margin suffused with fuscous, with traces of a waved white submarginal line and olive patches on costa before apex and on outer margin below apex. Hind wing either wholly suffused with fuscous or whitish with the basal area suffused with fuscous; traces of waved lines on outer area and a submarginal series of white specks; both wings with marginal series of black specks. Underside pale, suffused with fuscous; a broad somewhat ill-defined postmedial whitish band.

Closely allied to *picata*, Hübn., from Europe.

Hab. Afghanistan; N.W. Himalayas; Sikhim. *Exp.* 34 millim.

3639. **Cidaria scortea**, *Swinh. Trans. Ent. Soc.* 1891, p. 493.
Glaucopteryx viridis, *Warr. P. Z. S.* 1893, p. 368.

♂. Grey-brown. Fore wing with darker basal patch, bounded by a waved line; a broad medial band with waved edges; the outer area with a slight pinkish tinge, with three waved lines and with slight fuscous submarginal patches on the costa and below apex. Hind wing fuscous; underside with waved postmedial line.

The form *viridis* has the basal patch and medial band much blacker, the antemedial and outer areas dark green.

Hab. Sikhim; Khásis. *Exp.* 34–40 millim.

3640. **Cidaria melidiata,** *Feld. Reis. Nov.* pl. 132, fig. 42; *C. & S.* no. 3859.

♀. Head and thorax grey-green; the abdomen grey. Fore wing grey-green; the basal area with traces of waved lines and a more prominent grey line; the medial area greyish fuscous or grey-green with waved grey edges, having on it two waved black lines, a cell-spot, and some rufous on the veins at end of cell; a slight rufous tinge before the band, and on its outer edge beyond the cell and above inner margin; traces of waved dark lines on outer area and a more prominent grey submarginal line. Hind wing grey, the outer area darker, and with a waved grey submarginal line.

Hab. Dalhousie. *Exp.* 40 millim.

3641. **Cidaria ramalaria,** *Feld. Reis. Nov.* pl. 132, fig. 31; *C. & S.* no. 3866.

Grey, thickly irrorated with black and a few ochreous scales. Fore wing with fuscous subbasal band with waved edges; a similar medial band, widest at costa, and with a discocellular lunule; traces of a waved whitish submarginal line, sometimes prominent towards costa. Hind wing whitish grey, with traces of cell-speck and postmedial curved line, which are prominent on underside.

Hab. Dharmsála; Kúlú. *Exp.* 40 millim.

3642. **Cidaria variegata,** *Moore, P. Z. S.* 1867, p. 653; *C. & S.* no. 3766.

Olive-green, with black markings. Fore wing with indistinct waved lines; a waved subbasal blackish band; the medial area blackish, with waved black edges, the inner edge curved, the outer angled at vein 4; a crenulate grey submarginal line, with slightly darker patches inside it at costa and above middle. Hind wing fuscous, with a waved grey submarginal line.

Hab. Sikhim. *Exp.* 40 millim.

3643. **Cidaria cingala,** *Moore, Lep. Ceyl.* iii, p. 489, pl. 207, fig. 10; *C. & S.* no. 3896.
Anticlea multilinea, *Hmpsn. Ill. Het.* viii, p. 120, pl. 152, fig. 2.
Cidaria multilineata, *Hmpsn. Ill. Het.* viii, p. 121, pl. 153, fig. 8.
Cidaria fecunda, *Swinh. Trans. Ent. Soc.* 1891, p. 493.

Red-brown, in the forms *multilinea* and *fecunda* suffused with olive-green. Fore wing with numerous curved and waved lines; three subbasal lines being filled in with darker rufous, forming an indistinct band; the medial area darker, with two of the lines on it enclosing a large pale patch below costa and two small annuli on inner area, its inner edge curved, its outer highly dentate at vein 4, then obliquely and irregularly dentate to inner margin; a waved grey submarginal line. Hind wing paler brown, with two antemedial, one medial, and two postmedial waved lines; both wings with fine waved marginal line. Underside fuscous; each

wing with cell-spot, waved lines, a pale postmedial band angled at vein 4, and some pale patches on margin.

The Khási form *fecunda* has the ground-colour of underside almost wholly ochreous; the head often pale.

Hab. Khásis; Nilgiris; Ceylon. *Exp.* 34 millim.

3644. **Cidaria intertexta,** *Warr. P. Z. S.* 1893, p. 374, pl. 30, fig. 3.

♂. Pale olive-green, with pale rufous markings. Fore wing with pale rufous waved subbasal line; a broad rufous antemedial band angled in cell, edged by waved lines, and with a waved line at its middle; the medial area dark olive, with a waved line at its middle and dentate line on its outer edge, with pale rufous suffusion, and two curved dark lines beyond it; a submarginal crenulate line. Hind wing olive-fuscous. Underside of fore wing with the costa ochreous; an ochreous patch beyond the cell and submarginal series of specks. Hind wing ochreous, irrorated with fuscous.

Hab. Sikhim, 7500 feet. *Exp.* 28 millim.

3645. **Cidaria catenaria,** *Moore, P. Z. S.* 1867, p. 655, pl. 33, fig. 9; *C. & S.* no. 3727.

♀. Head and thorax rufous and black; throat white. Fore wing with a red subcostal streak from base to beyond middle; a rufous basal patch, with waved dark lines on it and waved edge; traces of antemedial, medial, and postmedial waved lines; a rufous medial patch on costa, with waved lines and black cell-spot on it; the apical area and area near outer angle rufous, with some submarginal white specks. Hind wing white, with fuscous and white patch at anal angle.

♂. With the white on medial area of fore wing much less prominent, and traversed by numerous waved lines.

Hab. Sikhim; Khásis. *Exp.* 42 millim.

3646. **Cidaria fulvotincta,** n. sp.

Whitish, suffused with pale fulvous; patagia with black patches. Fore wing with basal black patch, with a waved line on it and waved outer edge; two indistinct waved fulvous antemedial lines; a broad medial black band with two waved lines on it, its inner edge sinuous and angled on vein 2, its outer edge irregularly crenulate from vein 4 to inner margin; three indistinct waved fulvous lines on outer area, the undulations of one being filled in with fuscous near costa; a black patch on outer margin below apex filling in the undulations of the outer line. Hind wing whitish; the basal two-thirds slightly tinged with fuscous, and bounded by an indistinct waved line. Underside pale, with discocellular black strigæ.

Hab. Simla (*Harford*). *Exp.*, ♂ 34, ♀ 38 millim. Type in B. M.

3647. **Cidaria aurata**, *Moore, P. Z. S.* 1867, p. 664; *C. & S.* no. 3844.
Cidaria aliena, *Butl. A. M. N. H.* (5) vi, p. 230; *id. Ill. Het.* vi, pl. 120, fig. 11; *C. & S.* no. 3840.
Cidaria perpulchra, *Butl. P. Z. S.* 1886, p. 393; *C. & S.* no. 3865.
Cidaria tsermosaria, *Oberth. Et. Ent.* xviii, p. 39, pl. iii, fig. 43.

Head and thorax golden yellow; patagia marked with black, abdomen grey and fulvous, with paired series of dorsal black specks. Fore wing with the basal area black, tinged with fulvous and with traces of two waved lines on it, its outer edge silvery white and dentate in the cell; the antemedial area golden yellow, with some rufous suffusion; a medial fulvous-tinged black band, broad at costa, narrow at inner margin, with waved silvery-white edges, the inner edge more or less prominently indented on median nervure, the outer in the cell; the outer area golden yellow; a waved silvery-white submarginal line, with rufous on its inner edge, and blackish patches beyond it below apex and above outer angle. Hind wing whitish, with indistinct sinuous postmedial line, or sometimes suffused with fuscous, and with a series of pale submarginal spots; the underside irrorated with fuscous and rufous, and with antemedial and medial lines, and submarginal series of white specks.

Fig. 176.—*Cidaria aurata*, ♂. 1/1.

One specimen has hardly any yellow tinge, the markings being white suffused with rufous.

Hab. Murree; Dharmsála; Sikhim; Bhután; Tibet; Khásis. *Exp.* 32 millim.

3648. **Cidaria nugata**, *Feld. Reis. Nov.* pl. 132, fig. 39; *C. & S.* no. 3862.
Harpalyce kashmirica, *Moore, Lep. Atk.* p. 277; *C. & S.* no. 3884.

♀. Lemon-yellow; head, thorax, and abdomen tinged with rufous. Fore wing with a basal rufous patch produced to slight angles in and below cell; a broad medial rufous band, with yellowish middle and waved edges, constricted below the cell, and with an indentation in its inner edge in cell; traces of a submarginal line. Hind wing yellowish white.

Hab. Kashmir. *Exp.* 34 millim.

3649. **Cidaria exquisita**, *Warr. P. Z. S.* 1893, p. 375, pl. 30, fig. 2.

Cupreous brown; metathorax with a patch of silvery-blue scales; abdomen ringed with blue scales. Fore wing with some silvery-blue scales, and two interrupted curved lines on basal area; a waved antemedial silvery-blue line with two obscure golden lines inside it; some medial patches of silvery-blue scales on the veins; a waved silvery-blue postmedial line interrupted by a copper patch between veins 2 and 4, and with two waved golden lines beyond it; an interrupted silvery-blue waved submarginal line. Hind

wing fuscous; both wings with white strigæ on the cilia. Underside of hind wing with six lunulate blue lines.

Hab. Sikhim. *Exp.* 32 millim.

3650. **Cidaria dentistrigata,** *Warr. P. Z. S.* 1893, p. 374, pl. 30, fig. 4.

♂. Dark rufous; metathorax with a tuft of leaden scales. Fore wing suffused with leaden grey, except the basal area and a postmedial band; four antemedial leaden lines; the two outer most prominent and excurved in the cell; two waved postmedial nes, with two other lines beyond them with fewer waves in them; a submarginal waved line. Hind wing with the base and inner area fuscous; the apical area down to the cell and vein 2 white; three waved submarginal white lines on inner area; the margin fuscous and the cilia brown; underside with cell-spot and curved postmedial line.

Hab. Sikhim, 10,000 feet. *Exp.* 34 millim.

3651. **Cidaria subrubescens,** *Warr. P. Z. S.* 1888, p. 329; *C. & S.* no. 3871 A.

Melanippe despicienda, *Butl. Ill. Het.* vii, p. 117, pl. 137, fig. 17.

Rufous brown. Fore wing with the base blackish, bounded by an obliquely curved line; a medial band, which is slightly suffused with black, or deep black, with waved grey edges, the inner edge curved, the outer angled below costa and on vein 4, then incurved; an oblique discocellular striga touching the inner edge of the band; traces of waved lines on outer area and of a waved grey submarginal line. Hind wing with speck at end of cell; a medial line, which becomes black and double from vein 4 to inner margin; indistinct waved lines on outer area.

Hab. N.W. Himalayas. *Exp.* 22 millim.

3652. **Cidaria subangulata,** *Koll. Hügel's Kaschmir,* iv, p. 490.

Melanippe cymaria, *Butl. Ill. Het.* vii, p. 24 (*nec Wlk.*).

Head and thorax grey, irrorated with fuscous; abdomen with a reddish tinge. Fore wing with the base grey, with two slightly waved darker lines, followed by an antemedial grey-edged dove-coloured band with rufous middle, then a medial dark band, with waved grey edges and two black lines on it enclosing grey patches, on one of which is a discocellular speck; outer area grey, with indistinct waved lines on it; a reddish patch on costa before apex; a submarginal series of white specks. Hind wing whitish, slightly suffused with fuscous, and with about eight indistinct minutely waved lines. Underside with prominent waved white lines; the outer area chestnut, with submarginal series of white specks.

Hab. Afghanistan; N.W. Himalayas. *Exp.* 34 millim.

3653. **Cidaria mediovittaria,** *Moore, P. Z. S.* 1867, p. 656; *C. & S.* no. 3816.

Differs from *subangulata* in being redder. Fore wing with the

basal area rufous; the medial band with almost regularly curved edges, rufous with a grey band at middle, not broken up into patches; the indistinct waved lines of outer area more regular. Hind wing nearly white, with the waved lines very indistinct.

Hab. Sikhim. *Exp.* 32 millim.

3654. **Cidaria silaceata**, *Schiff. Wien. Verz.* p. 113.
Phalæna insulata, *Haw. Lep. Brit.* p. 330.
Cidaria oblongata, *Guen. Phal.* ii, p. 472; *C. & S.* no. 3864.
Cidaria substituta, *Wlk. Cat.* xxxv, p. 1691; *C. & S.* no. 3873.
Cidaria albolineata, *Pack. Rep. Peab. Ac.* v, p. 55.
Eustroma dentifera, *Moore, Lep. Atk.* p. 275; *C. & S.* no. 3877.
Cidaria umbrosaria, *Butl. Ill. Het.* vii, p. 24 (*nec Motsch.*).
Epirrhoë subfalcata, *Warr. P. Z. S.* 1893, p. 376.

Dark reddish brown; vertex of head and thorax marked with ochreous; abdomen with white line on 1st segment. Fore wing with indistinct subbasal line, slightly angled below costa; a grey antemedial band edged by sinuous white lines, the outer edge strongly toothed on median nervure; two indistinct dark waved medial lines, which meet in places and enclose the black cell-speck; a double postmedial white line sending teeth inwards on veins 2 and 3, and having a series of dentate black marks with white edges beyond it, which decrease in size to the inner margin; outer area suffused with ochreous; a black mark with dentate white inner edge below apex, and some smaller white-edged black marks towards outer angle. Hind wing whitish, with traces of cell-speck and two postmedial lines, which on underside are prominent and have a dentate band beyond them.

The Himalayan form *oblongata* is usually larger than the Nearctic and Palæarctic typical form. In the variety *insulata* veins 2 and 3 of fore wing are pale, streaked at base, enclosing a dark patch on the medial area.

Hab. United States; Europe; Japan; N.W. Himalayas; Sikhim; Khásis. *Exp.*, ♂ 30–36, ♀ 30–40 millim.

3655. **Cidaria nivicincta**, *Butl. Ill. Het.* vii, p. 119, pl. 137, fig. 20.

Differs from *silaceata* in the vertex of head and thorax being dark. Fore wing darker; the antemedial band brown, more regular, and with the outer white edge toothed on vein 2; the postmedial line less toothed, the area beyond it reddish brown; the subapical patch with evenly curved inner edge. Hind wing dark fuscous, with curved postmedial pale line.

Hab. Dharmsála; Khásis. *Exp.* 36 millim.

3656. **Cidaria niphonica**, *Butl. A. M. N. H.* (5) i, p. 452.

Head, thorax, and abdomen red-brown. Fore wing with the apex somewhat produced; the base dark red-brown, with curved grey edge; the antemedial band ferruginous, its outer grey edge angled in the cell and toothed below vein 2; the broad medial

b. (Eustroma). *Fore wing of male with a fringe of long hair on medial part of vein 1 on underside.*

3663. **Cidaria porphyriata**, *Moore, Lep. Atk.* p. 276; *C. & S.* no. 3881.
Cidaria multistriata, *Butl. Ill. Het.* vii, p. 119, pl. 137, fig. 21.

Head, thorax, and abdomen rufous and grey. Fore wing bright rufous, with numerous prominent white lines; four sinuous outwardly-oblique lines on basal area; a double broader antemedial line angled on median nervure; two indistinct double lines on medial area, the outer highly angled at lower angle of cell; a dark striga on discocellulars; a double postmedial line oblique from costa to vein 4, where it is joined by the submarginal line, and thence very highly crenulate to inner margin. Hind wing whitish, with some dark marks and traces of a pale waved submarginal line on anal area.

Hab. N.W. Himalayas; Sikhim. *Exp.* 26–30 millim.

3664. **Cidaria inextricata**, *Wlk. Cat.* xxxv, p. 1691; *C. & S.* no. 3854.
Cidaria ærosa, *Butl. A. M. N. H.* (5) i, p. 451.

Head, thorax, and abdomen pale ochreous, with slight black markings. Fore wing black-brown; the veins ochreous; an oblique sinuous subbasal ochreous line; an antemedial ochreous band composed of two lines filled in with ochreous except at costa, very highly dentate on vein 2, where it joins the markings of outer area; a fine line beyond it; the medial area with a fine ochreous line enclosing a patch from costa to vein 2, and a figure-of-8-shaped mark above inner margin; the markings of outer area consist of two lines from the costa joined at vein 5 by a crenulate submarginal line and oblique streak from apex, then becoming a highly crenulate band, with its inner part dark ochreous. Hind wing pale ochreous, with two postmedial waved lines and marginal fuscous band. Underside ochreous, with postmedial dentate line.

Hab. Japan; Sikhim. *Exp.* 36 millim.

3665. **Cidaria aurigena**, *Butl. A. M. N. H.* (5) vi, p. 230; *id. Ill. Het.* vi, pl. 120, fig. 10; *C. & S.* no. 3845.

Differs from *inextricata* in the stripes on thorax and markings of fore wing being bright brassy yellow. Fore wing with the base brassy yellow; the antemedial band broader, with brassy suffusion on it, before it, and beyond it, not so highly angled on vein 2, nor joined to the markings of outer area except by brassy suffusion; the postmedial band broader, joined to the medial patch by brassy suffusion, its inner edge not crenulate; brassy suffusion on the outer area from vein 4 to outer angle. Hind wing dark fuscous. Underside of fore wing with the disk fuscous.

Hab. Dalhousie; Sikhim; Khásis. *Exp.* 30 millim.

3666. **Cidaria chalcoptera**, n. sp.

♀. Differs from *aurigena* in the ground-colour being chestnut;

basal area of fore wing chestnut, with the white subbasal line crossing it and no golden suffusion; the outer edge of the antemedial brazen band conjoined to the postmedial band below costa, and leaving below that a very irregular medial chestnut band; the margin chestnut at outer angle. Hind wing whitish, with four pale waved bands on outer area.

Hab. Sikhim, 10,000 feet (*Elwes*). *Exp.* 32 millim. Type in coll. Elwes.

3667. **Cidaria decurrens**, *Moore, Lep. Atk.* p. 276; *C. & S.* no. 3876.

Rufous; head and thorax with a white stripe; abdomen whitish. Fore wing with an oblique white subbasal line; four other lines on basal half, angled below cell, complicated by other lines and streaks, and all running into a large pale yellow patch, which occupies the area near outer angle, into which also run five other lines on the outer half, the line nearest the margin being crossed by a line from apex; on the yellow patch is a red patch with yellow spots on it; the veins of outer area streaked with white; a fine marginal white line and three black spots towards outer angle. Hind wing very pale brown, with traces of pale postmedial and submarginal curved lines.

Hab. Japan; Nynee Tal; Khásis. *Exp.*, ♂ 30, ♀ 34 millim.

3668. **Cidaria cervinaria**, *Moore, P. Z. S.* 1867, p. 664; *C. & S.* no. 3848.

Cidaria multifaria, *Swinh. P. Z. S.* 1889, p. 429, pl. 44, fig. 9.

Head and thorax purplish; the head, collar, and patagia with ochreous-edged black spots; abdomen fuscous. Fore wing with complicated pale purplish and black markings; the base purplish, with a subbasal series of black specks; two almost conjoined irregular black antemedial patches; the antemedial band purplish, with a series of small black spots on it; the medial area black, broad at costa, narrow at inner margin; the median nervure and base of vein 4 streaked with ochreous in the form *multifaria*; a medial Y-shaped purplish mark from costa to lower angle of cell; the outer area purplish, with sinuous outer edge and indistinct sinuous lines on it; the submarginal line with highly irregular black patch on its costal portion, and some black specks above inner margin; an apical black spot. Hind wing pale fuscous, with indistinct waved postmedial and submarginal lines. Underside greyish fuscous, with dentate postmedial line; hind wing with cell-spot.

The male is more purplish in colour: one form has the hind wing angled at vein 3; the inner margin of hind wing and underside of abdomen with tufts of hair—the Sikhim race with the tuft on vein 1 dark and from near base, the Khási race with it ochreous and extending to outer margin of hind wing; another Khási form has the outer margin of hind wing rounded, no tufts on inner margin of hind wing or abdomen, the tufts on vein 1 from near base and ochreous.

Hab. Sikhim; Khásis. *Exp.*, ♂ 36, ♀ 44 millim.

3669. **Cidaria fissisignis,** *Butl. A. M. N. H.* (5) vi, p. 228; *id. Ill. Het.* vi, pl. 120, fig. 7; *C. & S.* no. 3853.
Cidaria reticulata, *Moore, P. Z. S.* 1867, p. 662; *C. & S.* no. 3868 (præocc.).

♂. Differs from *cervinaria* in the head and thorax being without black spots; the patagia black. Fore wing with the purplish areas paler; the subbasal black specks replaced by two patches; the antemedial purplish band divided into two bands enclosing two black spots, the outer band highly angled in cell and joined to the medial costal mark, which is a quadrate patch with two black spots on it; the inner edge of the outer purplish area sends two teeth inwards to the medial costal mark, and one along vein 2 nearly to the cell; a series of quadrate black marks on the margin; the median nervure not streaked with ochreous. Hind wing much whiter; some fuscous suffusion on outer margin near anal angle.
Hab. Sikhim. *Exp.* 44 millim.

B. (Gnamptopteryx). *Fore wing of male with the inner basal area very much contorted, with a patch of flocculent scales on underside, covered by a tuft of long hair below base of vein* 1, *which is twisted and bears a fringe of long hair; hind wing with the base of costa produced upwards to form a large lobe, to which vein* 8 *is bent upwards instead of anastomosing with* 7; *veins* 6, 7 *from angle of cell; abdomen with the lateral tufts large, and a very large pale terminal tuft.*

3670. **Cidaria perficita,** *Wlk. Cat.* xv, p. 1809; *Hmpsn. Ill. Het.* ix, pl. 170, figs. 7, 14; *C. & S.* no. 3765.
Larentia comprensata, *Wlk. Cat.* xxvi, p. 1703.

♂. Dark fuscous brown; the thorax and abdomen with obscure purplish bands. Fore wing with a red streak on subcostal nervure, and numerous waved dark lines defined by obscure purplish bands. Hind wing with traces of waved lines. Underside with discocellular lunules, and irregularly sinuous blackish medial band.
♀. More rufous in colour; fore wing with antemedial and postmedial grey bands.
Hab. Nilgiris; Ceylon. *Exp.* 40 millim.

SECT. II. (*Cidaria*). Antennæ of male minutely serrate and fasciculate.

A. *Fore wing of male with no tuft on underside.*

3671. **Cidaria saturata,** *Guen. Phal.* ii, p. 269; *C. & S.* no. 3778.
Larentia exliturata, *Wlk. Cat.* xxiv, p. 1195; *C. & S.* no. 3760.
Larentia granitalis, *Butl. Ill. Het.* vii, p. 114, pl. 137, fig. 8.
Larentia hemana, *Butl. A. M. N. H.* (5) i, p. 444.
Coremia livida, *Butl. A. M. N. H.* (5) i, p. 449; *C. & S.* no. 3814 A.

Pale rufous. Fore wing with numerous very indistinct pale waved lines; a broad medial blackish band with waved edges and

narrowing from vein 2 to inner margin; a black spot on it at end of cell and three waved black lines, two of which form spots or annuli on its inner portion; diffused fuscous patches on costa before apex and on outer margin below apex; a waved grey submarginal line. Hind wing pale, more or less suffused with fuscous; three indistinct waved lines on medial area, and a waved grey submarginal line.

Some specimens are considerably darker than others.

Hab. Natal; Japan; China; N.W. Himalayas; Khásis; Nilgiris. *Exp.* 28 millim.

3672. **Cidaria fluviata,** *Hübn. Samml. eur. Schmett., Geom.* figs. 280, 281.

Geometra gemmata, *Hübn. Samml. eur. Schmett., Geom.* fig. 283.
Camptogramma baccata, *Guen. Phal.* ii, p. 430; *Moore, Lep. Ceyl.* iii, pl. 206, fig. 7; *C. & S.* no. 3895.
Cidaria peracutata, *Wlk. Cat.* xxv, p. 1421.

♂. Pale rufous. Fore wing with numerous indistinct sinuous lines on basal area; a dark medial band with black cell-speck on it, its inner edge curved, its outer sinuous; an indistinct sinuous line beyond it, followed by a more prominent sinuous postmedial line with grey outer edge; a waved submarginal line joined by an oblique streak from apex. Hind wing with numerous indistinct waved lines, the most prominent being curved ante- and postmedial lines; the basal area darker.

♀. Much more uniform dark red; fore wing with the medial band obscure, broader, and with a white discocellular annulus on it.

Hab. Nearctic region; Chili; Palæarctic region; throughout India, Ceylon, and Burma. *Exp.* 24 millim.

B. *Fore wing of male with a tuft of long black hair on underside from base of vein* 1.

3673. **Cidaria fuscigrisea,** n. sp.

♂. Grey and fuscous. Fore wing with numerous obliquely waved indistinct dark lines, two of the subbasal lines, two antemedial, and two postmedial being filled in with rufous, forming obscure bands; a dark discocellular striga. Hind wing fuscous, with obscure waved lines on anal area.

Hab. Simla (*Harford*). *Exp.* 32 millim. Type in B. M.

SECT. III. (*Coremia*). Antennæ of male bipectinated.

3674. **Cidaria fissiferata,** *Wlk. Cat.* xxiv, p. 1194; *C. & S.* no. 3761.
Larentia intermixta, *Wlk. Cat.* xxiv, p. 1194; *C. & S.* no. 3763.

♂. Head and thorax grey, rufous, and fuscous; abdomen grey. Fore wing grey, suffused with rufous, and with numerous dark sinuous lines; subbasal, ante- and postmedial grey lines, the two latter with the area between them rather darker and forming a medial band with black cell-spot on it, the postmedial line angled

below the costa and on vein 4; a waved grey submarginal lin and grey streak from apex. Hind wing pale fuscous grey. Undei side browner; each wing with cell-speck, postmedial and submar ginal lines.

♀. Fore wing with bands of silvery grey, on which the dar subbasal, antemedial, and postmedial lines show up prominently some pink scales on the veins, inside the subbasal line, and on th medial band.

Hab. Nilgiri plateau. *Exp.* 34 millim.

3675. **Cidaria molata,** *Feld. Reis. Nov.* pl. 132, fig. 23; *C. & S* no. 3897.

Grey, rufous, and fuscous. Fore wing with basal dark patc edged by a grey line; a broad medial band with waved whitis edges and black waved lines on it, two of which enclose a whit band which is wide in the cell, bearing the discocellular blac speck, then narrowing to inner margin; an indistinct waved gre submarginal line with fuscous patches on costa and below apex an apical white patch. Hind wing whitish, with traces of fuscou postmedial lines.

Another form is much more rufous, with the whole medial ban of fore wing fuscous black, with no white on it or at apex; th darker specimens of this form having the hind wing fuscous.

Another form is olive-brown, with all the markings of the for wing obsolescent, except a diffused black basal patch and media band; the hind wing dark fuscous.

Hab. Nilgiri plateau; Ceylon. *Exp.* 32 millim.

3676. **Cidaria magnificata,** *Wlk. Cat.* xxv, p. 1312; *C. & S.* nc 3815.

Cidaria subseparata, *Wlk. Cat.* xxv, p. 1403; *C. & S.* no. 3872.
Cidaria inspurcata, *Wlk. Cat.* xxv, p. 1403; *C. & S.* no. 3855.
Cidaria albilinea, *Hmpsn. Ill. Het.* viii, p. 120, pl. 152, fig. 9.
Cidaria fumipennis, *Hmpsn. Ill. Het.* viii, p. 120, pl. 152, fig. 7.

♂. Rufous. Fore wing with numerous waved black lines; th basal area and medial band fuscous, the latter with waved gre edges, the black lines on it enclosing below the costa a large pal patch, on which is the discocellular speck, and two pale spot above inner margin, the outer edge angled below the costa and oı vein 4; a waved grey submarginal line, with fuscous patches on i at costa and below apex; a marginal series of black specks. Hin wing brownish fuscous, with traces of waved postmedial and sub marginal lines.

The form *fumipennis* is entirely suffused with purplish fuscous with only slight traces of rufous between the lines of fore wing hind wing and cilia pale purplish fuscous.

♀. Much greyer and less rufous; fore wing with the wave black lines more prominent; the patches on the medial band grey the cell-speck rufous; the outer edge of the medial band prominent and white. Hind wing more fuscous, with the cilia ochreous

In the male the discocellulars of hind wing are somewhat angled, vein 5 arising from below the angle.

Hab. Nilgiri plateau. *Exp.* 36–42 millim.

3677. **Cidaria curcumata,** *Moore, Lep. Atk.* p. 278; *C. & S.* no. 3851.

Head, thorax, and abdomen black and grey-brown, with a few rufous and vinous scales. Fore wing with the base black, with some vinous scales on it; a green antemedial band, with two black lunules and two dentate lines on it; a broad medial black band with waved black lines on it, enclosing black patches and spots, its inner edge angled in cell and on vein 2, its outer waved and produced to an angle on vein 4; the outer area green, with waved black lines; fuscous patches on costa before apex and on outer margin below apex; a pale waved submarginal line. Hind wing white, the inner area suffused with fuscous. Underside grey, with cell-spots and irregularly waved and angled postmedial line.

Hab. Simla; Dalhousie; Sikhim; Khásis. *Exp.* 36 millim.

3678. **Cidaria viridata,** *Moore, P. Z. S.* 1867, p. 661; *C. & S.* no. 3875.

Bright green; the palpi fuscous; thorax and abdomen with black markings; anal tuft of male ochreous. Fore wing with basal black patch on costa; a purplish-fuscous antemedial band with waved edges; the medial area purplish fuscous, with some green in cell and on costa; a cell-speck and two waved lines on it; the edges sinuous, the inner edge angled in cell, the outer on vein 4; traces of a waved submarginal line; dark patches on costa before apex and on outer margin below apex. Hind wing ochreous white, with traces of cell-speck and postmedial band.

Hab. Sikhim; Khásis. *Exp.*, ♂ 22, ♀ 28 millim.

3679. **Cidaria imbrata,** *Guen. Phal.* ii, p. 380; *C. & S.* no. 3893.

♀. Differs from *viridata* in the postmedial band of fore wing being edged with white on outer side; the submarginal line with some white on it. Hind wing bright rufous.

Hab. Sikhim. *Exp.* 30 millim.

3680. **Cidaria obfuscata,** *Warr. P. Z. S.* 1893, p. 376.
Cidaria bareconia, *Swinh. Trans. Ent. Soc.* 1894, p. 189.

♂. Head and thorax fuscous, suffused with leaden grey; abdomen rufous. Fore wing pale rufous, with the basal area fuscous suffused with leaden grey extending along the costa to the postmedial line; an apical fuscous and leaden-grey patch; about five indistinct curved lines on basal area; traces of waved medial and postmedial lines, the latter with some pale specks on it; traces of two waved submarginal lines, the outer with dark rufous patches below costa and above inner margin. Hind wing dark fuscous. Underside greyish fuscous.

Hab. Sikhim; Khásis; Nágas. *Exp.* 24 millim.

3681. **Cidaria divergens**, *Butl. Ill. Het.* vii, p. 118, pl. 137, fig. 18.

Grey-brown. Fore wing with a dark antemedial band; the medial area with a dark band on its inner edge, a discocellular line, a waved line excurved beyond cell, the outer edge of the area produced to angles at veins 6 and 4, and with a dark patch between those points; a waved submarginal line. Hind wing pale fuscous brown; underside with cell-speck, postmedial and submarginal lines.

One specimen has the antemedial and outer areas of fore wing suffused with green.

Hab. Dalhousie; Dharmsála. *Exp.* 26 millim.

Genus **GONANTICLEA**.

Gonanticlea, *Swinh. Trans. Ent. Soc.* 1892, p. 3.

Type, *G. aversa*, Swinh.

Range. Khásis; Nilgiris; Ceylon.

Differs from *Cidaria* in the palpi having the 2nd joint reaching well beyond the frontal tuft, the 3rd prominent; antennæ of male ciliated; fore wing with the outer margin slightly dentate below apex and angled at vein 4; hind wing with the outer margin slightly angled at vein 4; vein 5 from below middle of discocellulars, which are angled.

3682. **Gonanticlea occlusata**, *Feld. Reis. Nov.* pl. 132, fig. 16; *C. & S.* no. 3809.

♂. Head, thorax, and abdomen rufous. Fore wing with the base dark, and defined by a curved pale line; the antemedial area rufous; the medial area blackish, defined by sinuous grey lines, the inner angled on median nervure, the outer on veins 6 and 4, and bearing a black cell-speck and straight oblique purplish-grey medial band; the outer area purplish grey, with rufous patch on costa before apex with a black spot below it; traces of a waved grey submarginal line. Hind wing rufous. Underside fulvous yellow, with cell-speck to each wing; the outer area suffused with fuscous; hind wing with postmedial line.

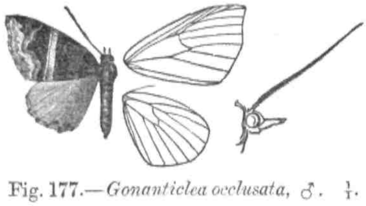

Fig. 177.—*Gonanticlea occlusata*, ♂. 1/1.

♀. The portion of the medial area of fore wing beyond grey band grey, except at costa, and with three nearly straight lines on it.

Hab. Khásis; Nilgiris; Ceylon. *Exp.* 30 millim.

3683. **Gonanticlea aversa**, *Swinh. Trans. Ent. Soc.* 1892, p. 4.

Head, thorax, and abdomen blackish brown. Fore wing with the base rufous, defined by a curved grey line; the antemedial

area purplish grey; the antemedial line grey, with a dark band on its inner edge crossing to the outer side at costa; the postmedial line grey, angled, and with a dark patch inside it below costa; a black dentate mark beyond it below costa, and a black spot at apex; indistinct waved lines on medial and outer areas. Hind wing dark fuscous. Underside with diffused ochreous on costal area of fore wing and basal half of hind wing.

Another form has the antemedial area of fore wing dark; the medial area and a large patch on the margin below apex ochreous.

Hab. Khásis. *Exp.* 30 millim.

Genus **LARENTIA**.

Larentia, *Treitschke, Eur. Schmett.* vi, 2, p. 75 (1828).
Hydriomena, *Hübn. Verz.* p. 322 (? 1818) (non descr.).
Perizoma, *Hübn. Verz.* p. 327.
Xanthorhoë, *Hübn. Verz.* p. 327.
Glaucopteryx, *Hübn. Verz.* p. 332.
Thera, *Steph. Ill. Brit. Ent., Haust.* iii, p. 271 (1829).
Polyphasia, *Steph. Ill. Brit. Ent., Haust.* iii, p. 227.
Anticlea, *Steph. Ill. Brit. Ent., Haust.* iii, p. 236.
Paralophia, *Warr. P. Z. S.* 1893, p. 371.
Gagitodes, *Warr. P. Z. S.* 1893, p. 381.

Type, *L. cervinata*, Schiff., from Europe.

Range. Universally distributed.

Differs from *Cidaria* in the hind wing having the discocellulars angled; vein 5 from below the middle.

SECT. I. Wings smoothly scaled; claspers of male not exserted.

A. (Larentia). *Antennæ of male bipectinated; fore wing with vein 6 from above angle of cell.*

3684. **Larentia ustipennis**, n. sp.

♂. Ferruginous red, irrorated with grey. Fore wing with sinuous grey subbasal line; minutely waved antemedial line deeply toothed in the cell; a sinuous postmedial line angled on vein 4 and with some grey beyond it; some grey on outer margin; two indistinct sinuous dark medial lines and a discocellular speck. Hind wing grey-brown, with traces of a postmedial band with dark lines on it. Underside with black cell-spots and grey postmedial line angled on vein 4, having black suffusion inside it on hind wing.

Hab. Dharmsála (*Hocking*). *Exp.* 34 millim. Type in B. M.

3685. **Larentia albigirata**, *Koll. Hügel's Kaschmir*, iv, p. 489; *C. & S.* no. 3838.
Cidaria signata, *Moore, P. Z. S.* 1867, p. 661; *C. & S.* no. 3870.
Cidaria jameza, *Butl. A. M. N. H.* (5) i, p. 452; *id. Ill. Het.* iii, pl. 55, fig. 9; *C. & S.* no. 3857.
Cidaria thomasata, *Warr. P. Z. S.* 1888, p. 329; *C. & S.* no. 3873 A.

Dark brown, irrorated with grey. Fore wing with numerous

indistinct waved dark lines; minutely waved grey subbasal, antemedial, and postmedial lines, the 2nd deeply toothed on median nervure, the 3rd angled on vein 4 and sending a tooth inwards on vein 2; a grey-edged black discocellular lunule; a waved grey submarginal line and subapical grey streak. Hind wing fuscous, with more or less prominent submarginal grey specks. Underside with prominent black cell-specks and irregularly dentate postmedial grey line with black on its inner edge, which on the hind wing sometimes shows through to the upperside as a pale band with a dark line on it.

Hab. Japan; N.W. Himalayas. *Exp.*, ♂ 34, ♀ 40 millim.

B. *Antennæ of male ciliated.*

a′. *Fore wing with vein 6 from angle of cell.*

a². *Palpi reaching well beyond the frons.*

a³. *Hind wing of male with no tuft of hair on underside above middle of vein 1 b.*

a⁴. (Paralophia). *Abdomen of male with large lateral tufts of hair on distal segments.*

3686. **Larentia siderifera,** *Moore, Lep. Atk.* p. 276; *C. & S.* no. 3882.
Paralophia pustulata, *Warr. P. Z. S.* 1893, p. 371, pl. 30, fig. 7.

Fuscous brown. Fore wing with indistinct waved white subbasal line; the broad dark medial area with black cell-spot and two waved lines on it, inwardly edged by two waved white lines, the outer toothed in cell and above vein 1, and outwardly edged by three dentate white lines angled at vein 4, and with a large white spot on them at vein 5; a submarginal series of black and white specks; an indistinct oblique streak from apex. Hind wing whitish. Underside of hind wing and outer area of fore wing ochreous, speckled with fuscous; a postmedial line angled at vein 4 of each wing, and toothed inwards in cell and below vein 2 of hind wing; a submarginal series of prominent white specks.

One female is dark fuscous evenly irrorated with grey, and with the white markings slightly differentiated; hind wing fuscous grey.

Hab. Sikhim; Khásis. *Exp.* 34–40 millim.

3687. **Larentia argentilineata,** *Moore, P. Z. S.* 1867, p. 660, pl. 33, fig. 5; *C. & S.* no. 3842.

Black-brown. Fore wing with curved subbasal white line; double antemedial line, the median nervure beyond it and veins 2 and 3 streaked with white; a treble postmedial slightly curved line with diffused white beyond it; a dentate submarginal line crossed by an oblique white streak from apex. Hind wing fuscous, with traces of pale waved lines on outer area. Underside fuscous, with traces of pale waved lines and submarginal series of white specks.

Hab. Sikhim. *Exp.* 42 millim.

b[4]. *Abdomen of male without large lateral tufts of hair on distal segments.*

3688. **Larentia homophana**, n. sp.

Almost indistinguishable in markings from *albigirata*; the antemedial line of fore wing rather more irregular below the cell; the postmedial line less highly angled on vein 4.

Hab. Simla; Dalhousie (*Harford*). *Exp.*, ♂ 34, ♀ 40 millim. Type in B. M.

3689. **Larentia indistincta**, *Butl. Ill. Het.* vii, p. 118, pl. 137, fig. 19.

Fuscous grey; the palpi black. Fore wing with indistinct waved olive-brown lines, one subbasal, three antemedial, four postmedial, and two submarginal; blackish patches on the last postmedial line beyond the cell and on the outer submarginal line below apex; a small black subapical spot. Hind wing with two postmedial and two submarginal very indistinct waved lines; both wings with marginal series of black lunules.

Hab. Simla; Dharmsála. *Exp.*, ♂ 32, ♀ 36 millim.

3690. **Larentia punctatissima**, *Warr. P. Z. S.* 1893, p. 368.

Fuscous, thickly irrorated with grey. Fore wing with indistinct waved subbasal line; the medial area delineated by ante- and postmedial series of white specks on the veins, and with a series of smaller specks at middle; the black cell-speck on a grey patch. Hind wing whitish grey; cilia of both wings grey and fuscous. Underside of hind wing with cell-speck and traces of waved postmedial and submarginal lines.

Hab. Sikhim. *Exp.* 38 millim.

3691. **Larentia stellata**, *Warr. P. Z. S.* 1893, p. 367.
Larentia adjrouaria, *Oberth. Et. Ent.* xviii, p. 36, pl. iv, fig. 59.

♀. Head and thorax olive-green, irrorated with blue-grey specks; abdomen fuscous, with dark segmental rings. Fore wing olive-green, with about eight series of blue-grey specks on the veins and a crenulate submarginal line; a series of marginal white specks; traces of antemedial and medial darker bands and some submarginal waved lines; cilia tipped with white. Hind wing whitish, with indistinct submarginal line; underside with cell-speck and six waved lines beyond it.

Hab. Sikhim, 10,000 feet; Tibet. *Exp.* 42 millim.

3692. **Larentia cupreata**, *Moore, P. Z. S.* 1867, p. 655; *C. & S.* no. 3812.

♀. Rufous, slightly irrorated with grey. Fore wing with indistinct waved white line near base; double subbasal and antemedial waved white lines; a dark rufous medial band forking towards costa and inner margin, the area beyond it rufous shading

to golden yellow, then rufous again on apical area and area near outer angle; a double series of dark postmedial specks on the veins and traces of double waved white line; some white and dark submarginal marks. Hind wing pale brownish fuscous; underside with indistinct cell-speck; waved whitish postmedial line; the inner area dark brown.

Hab. Sikhim. *Exp.* 38 millim.

3693. **Larentia latifusata,** *Wlk. Cat.* xxv, p. 1298; *C. & S.* no. 3813.
Cidaria næmata, *Feld. Reis. Nov.* pl. 132, fig. 32; *C. & S.* no. 3861.

Dark red-brown. Fore wing with nearly straight subbasal black line; an antemedial line, which is slightly bent outwards from subcostal nervure to middle of interno-median interspace; a speck at end of cell; a sinuous postmedial line excurved between veins 4 and 2, and with an indistinct pale band on which are two waved lines beyond it; some submarginal white specks and two obliquely placed black spots from apex. Hind wing fuscous, with an indistinct pale postmedial band excurved from veins 2 to 4, on which is a dark line.

Hab. Murree; Dalhousie. *Exp.* 34–38 millim.

3694. **Larentia combusta,** *Swinh. MS.*

♂. Rufous; palpi and metathoracic tuft black; abdomen greyish. Fore wing with numerous indistinct oblique dark waved lines; small grey antemedial, medial, and postmedial patches on the costa, and a large patch on outer area below middle; some dark suffusion on antemedial area and on outer area below apex. Hind wing whitish; the inner and outer areas slightly tinged with rufous; a black speck on angle of discocellulars; a curved postmedial line, bent inwards near inner margin.

Hab. Khásis. *Exp.* 40 millim.

3695. **Larentia nigralbata,** *Warr. P. Z. S.* 1888, p. 327; *C. & S.* no. 3821 A.

Fuscous black. Fore wing irrorated with a few white scales; subbasal and antemedial series of white specks on the veins angled below the costa; a large oblique postmedial white patch from costa to vein 3, with irregularly waved white edges and crossed by a waved postmedial line, which on the black areas is represented by white specks on the veins; a subapical series of white specks with larger spots at middle and above outer angle. Hind wing with submarginal series of white specks; the cilia whitish near apex.

Hab. Thundiáni, Punjab; Sikhim. *Exp.*, ♂ 46, ♀ 56 millim.

3696. **Larentia albiplaga,** *Oberth. Et. Ent.* xi, p. 34, pl. vi, fig. 42.

Differs from *nigralbata* in being browner. Fore wing with the subbasal, ante- and postmedial series of white specks replaced by

indistinct double waved pale lines; the medial patch grey and much reduced, extending from costa to lower angle of cell; whitish spots on the submarginal line at middle and on vein 2.

Hab. Tibet; Sikhim. *Exp.*, ♂ 44, ♀ 50 millim.

3697. **Larentia flavistrigata**, *Warr. P. Z. S.* 1888, p. 329; *C. & S.* no. 3812 A.

Epirrhoë pallidaria, *Swinh. A. M. N. H.* (6) xii, p. 156.

Head and thorax grey and black; abdomen with a rufous tinge. Fore wing grey, irrorated with black and with some silvery scales; a waved antemedial line; an ochreous streak on median nervure; a broad medial black band with waved grey edges, two waved lines on it and a black spot on discocellulars; outer area with some ndistinct waved lines; a waved grey submarginal line with a black patch inside it on costa before apex, a subapical spot and some ochreous suffusion inside the line. Hind wing pale suffused with fuscous, with indistinct waved lines on postmedial area and an indistinct waved whitish submarginal line.

Hab. N.W. Himalayas. *Exp.* 24–28 millim.

3698. **Larentia brevifasciata**, *Warr. P. Z. S.* 1888, p. 330; *C. & S.* no. 3846 A.

♂. Fuscous black. Fore wing with straight subbasal white line; an antemedial white band with a black line on it, sending a spur in the cell to the discocellular black speck, and joined below the cell and on inner margin to a similar postmedial band, which is angled outwards at middle to the margin; a waved white submarginal line. Hind wing white, slightly tinged with fuscous; a speck at end of cell and indistinct postmedial line highly excurved beyond lower angle of cell; underside with the cell-speck and postmedial line prominent.

Hab. Thundiáni, Punjab. *Exp.* 30 millim.

3699. **Larentia costipannaria**, *Moore, P. Z. S.* 1867, p. 654; *C. & S.* no. 3769.

♂. Chestnut-brown, with a slight violaceous tinge; head and thorax blackish; abdomen blackish towards extremity. Fore wing with the base black; two black specks on costa and a large medial triangular patch extending almost to the lower angle of cell; traces of a curved postmedial line; a submarginal whitish line curving out to the margin at middle, and with blackish marks beyond it below apex and at outer angle. Hind wing with discocellular black speck; some indistinct postmedial specks from vein 5 to inner margin; traces of a submarginal whitish line. Underside of each wing with black cell-spot and curved submarginal series of specks.

Hab. Sikhim. *Exp.* 28 millim.

3700. **Larentia maculata**, *Moore, Lep. Atk.* p. 277; *C. & S.* no. 3858.

Dark cupreous brown; vertex of head white: thorax white, except the collar; basal segment of abdomen white. Fore wing with a few white specks, a large basal white patch on inner area; a broad antemedial white band with irregularly sinuous edges; large postmedial patches on costa and inner margin; a submarginal series of white specks and a large white patch at middle. Hind wing white, with traces of a sinuous postmedial line and broad marginal fuscous band; the underside fuscous, irrorated with white, with a cell-speck and whitish postmedial band.

Hab. Sikhim. *Exp.* 28 millim.

b³. *Male with a thick tuft of hair on underside of hind wing above middle of vein 1 b.*

3701. **Larentia hypolopha**, n. sp.

♂. Head, thorax, and abdomen orange, with fuscous spots: palpi and frontal tuft black. Fore wing white; the base tinged with orange; a broad pale fuscous medial band with waved edges; the outer area fuscous, with two indistinct waved lines on its inner edge, and a prominent waved white submarginal line. Hind wing white, with medial pale fuscous band with waved edges; the marginal area pale fuscous, with waved white submarginal line; underside with the tuft blackish.

Hab. Sikhim (*Knyvett*). *Exp.* 46 millim. Type in coll. Elwes.

3702. **Larentia abraxidia**, n. sp.

♀. Head blackish; thorax and abdomen orange, the latter with paired dorsal and lateral black spots. Fore wing blackish with white markings, of which the largest is a white patch from middle of costa to outer margin below middle; the base tinged with orange; a single subbasal and double antemedial white line angled in cell; a black cell-spot; two indistinct dark waved medial lines and a more prominent postmedial line; traces of waved lines on outer area. Hind wing white, with black cell-spot; some fuscous markings on inner margin and ill-defined maculate submarginal and almost marginal bands, a black marginal line.

Hab. Sikhim (*Knyvett*). *Exp.* 50 millim. Type in coll. Elwes.

b². *Palpi not reaching beyond the frons.*

3703. **Larentia lacteiguttata**, *Warr. P. Z. S.* 1893, p. 378, pl. 30, fig. 16.

Dark cupreous brown; head with a white spot on vertex; thorax and abdomen with white specks, the prothorax with a pair of prominent white spots. Fore wing with prominent white specks and spots, of which some on the costa, inner margin, end of cell

below apex, and on outer margin are the largest. Hind wing fuscous, with white specks and spots. of which postmedial and submarginal series are the most prominent.

Hab. Sikhim, 10,000 feet. *Exp.* 28 millim.

b′. *Fore wing with vein 6 from above angle of cell.*

a². *Male with no fringe of hair in the cell below.*

3704. **Larentia seriata,** *Moore, Lep. Atk.* p. 278; *C. & S.* no. 3869.

Rufous; the head, thorax, and abdomen marked with black, and slightly irrorated with white scales. Fore wing with a basal black patch bounded by a curved white line; a broad medial black band with waved white edges and traces of waved lines on it; some irregular white submarginal spots, one at middle being developed into a very large patch; diffused blackish patches at apex and above the white patch; some white marginal specks; cilia rufous and black. Hind wing pale fuscous or whitish, with indistinct paler postmedial band with fuscous edges.

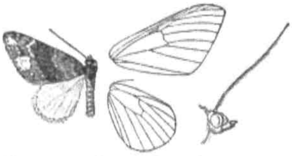

Fig. 178.—*Larentia seriata,* ♂. $\frac{1}{1}$.

The submarginal white spots and patch may be suffused with rufous.

Hab. N.W. Himalayas. *Exp.* 24 millim.

3705. **Larentia bicolor,** *Warr. P. Z. S.* 1893, p. 379.

Differs from *seriata* in the basal black patch of fore wing being smaller; the medial band broad; the antemedial and outer areas uniform rufous, the latter without the black patches and with only slight traces of white submarginal specks. Underside of fore wing with white irroration on the margin.

Hab. Sikhim, 10,000 feet. *Exp.* 26 millim.

3706. **Larentia apicistrigata,** *Warr. P. Z. S.* 1893, p. 378, pl. 30, fig. 19.

♂. Differs from *seriata* in the black basal patch of fore wing being broad, with only a narrow chestnut line between it and the medial band, and crossed by a waved subbasal line; the outer edge of the medial band prominently white and produced to two sinuations between veins 2 and 4; a large black submarginal patch from costa to vein 5; a series of white submarginal specks.

Hab. Sikhim, 10,000 feet. *Exp.* 26 millim.

3707. **Larentia variabilis,** *Warr. P. Z. S.* 1893, p. 377, pl. 30, fig. 17.

Fuscous brown. Fore wing with a more or less distinct basal patch and broad medial band with waved grey edges; a large

white patch on middle of outer area which may be tinged with ochreous; a more or less complete series of submarginal white specks. Hind wing milky white, with a fuscous mark at anal angle, or uniform fuscous; cilia brownish. Underside fuscous; fore wing with submarginal series of white specks, the margin irrorated with bluish white; hind wing irrorated with white, a black cell-spot and postmedial line, a submarginal series of white specks.

Another form has the white patch of fore wing absent, the submarginal specks reduced; hind wing with sinuous postmedial line; underside nearly uniform fuscous.

Hab. Sikhim. *Exp.* 26–30 millim.

3708. **Larentia albofasciata,** *Moore, Lep. Atk.* p. 277; *C. & S.* no. 3839.

Head and thorax fuscous and white; abdomen rufous. Fore wing with a basal black patch bounded by a white line; the antemedial area rufous; the medial and postmedial areas white, extending to the margin as a patch on middle of outer area; a prominent black lunule on discocellulars, with some dark marks on costa above it; two black marks on middle of inner area and some black specks on the veins; the outer area rufous except at middle; a submarginal series of white spots. Hind wing white.

Hab. Dharmsála; Sikhim. *Exp.* 28 millim.

3709. **Larentia minuta,** *Butl. Ill. Het.* vii, p. 117, pl. 137, figs. 15, 16.
Epirrhoë latifasciata, *Warr. P. Z. S.* 1893, p. 375.

Red-brown; the vertex of head and thorax whitish. Fore wing with an indistinct antemedial band formed by three sinuous whitish lines; a black spot at end of cell; a broad submarginal sinuous whitish band, diffused outwards to the margin below apex and at middle, and edged by white lines which are sometimes waved, sometimes regular. Hind wing pale fuscous, with cell-speck and waved white postmedial and submarginal lines. Underside rufous, fuscous, and grey, with cell-speck and narrow white postmedial and submarginal lines.

Hab. N.W. Himalayas; Sikhim; Nágas. *Exp.* 26 millim.

3710. **Larentia conjuncta,** *Warr. P. Z. S.* 1893, p. 381.

♂. Head white; palpi black; thorax and abdomen white, irrorated with black. Fore wing with large basal black patch, on which is a white patch at base of inner margin; a broad antemedial white band and rufous and dark medial band with waved edges and a black discocellular spot; a postmedial white band; the marginal area rufous and dark, with dentate whitish submarginal line. Hind wing dark fuscous.

Hab. E. Pegu. *Exp.* 18 millim.

3711. **Larentia affinis**, *Moore, Lep. Atk.* p. 277; *C. & S.* no. 3837.

Greyish fuscous. Fore wing with a basal patch and medial band hardly darker than the ground-colour, the former with curved grey edge, the latter edged by double grey lines and punctiform black marks on the veins; a black discocellular striga; a rufous line beyond the medial band with a rufous patch on middle of outer area, which is sometimes absent; a waved grey submarginal line. Hind wing milky white, with traces of postmedial and submarginal lines, which are more prominent on underside.

Hab. N.W. Himalayas; Sikhim. *Exp.* 28–32 millim.

3712. **Larentia fasciata**, *Warr. P. Z. S.* 1893, p. 379, pl. 30, fig. 20.

Ferruginous; metathorax with a white patch. Fore wing with waved subbasal white line; double ante- and postmedial waved white lines, reduced to specks on the veins at middle; a few white scales on medial area and a black speck on discocellulars; a large whitish patch on middle of outer area; a submarginal series of white specks and a series close to the margin. Hind wing milky white, with slight fuscous suffusion; traces of postmedial, submarginal, and almost marginal waved lines. Underside rufous, with two series of white specks on marginal area of fore wing; hind wing with diffused medial white band, black cell-spot, and four lunulate white bands on outer area.

Hab. Sikhim. *Exp.* 22 millim.

3713. **Larentia interrupta**, *Warr. P. Z. S.* 1893, p. 380, pl. 30, fig. 18.

Differs from *fasciata* in being darker and only tinged with rufous. Fore wing with broad doubly lunulate white postmedial band interrupted at middle by a fuscous patch, which expands into a large bluish-white patch on outer area. Hind wing slightly suffused with fuscous, especially on outer area.

Hab. Sikhim. *Exp.* 28 millim.

3714. **Larentia albidivisa**, *Warr. P. Z. S.* 1893, p. 380.

♂. Rufous; abdomen with slender white segmental rings. Fore wing with slender erect white antemedial line; slightly curved double medial line; treble postmedial line angled outwards to margin at middle; an indistinct waved submarginal line. Hind wing fuscous; underside with indistinct curved postmedial line.

Hab. Nágas, 6000 feet. *Exp.* 18 millim.

3715. **Larentia decorata**, *Moore, Lep. Atk.* p. 268; *C. & S.* no. 3770.

♀. Brownish ochreous. Fore wing with subbasal dark line and fuscous antemedial band; a fuscous medial band broadest at costa, and with waved lines parallel to its edges; the outer area fuscous brown, with a series of conjoined white submarginal spots. Hind wing whitish. Underside ochreous brown; each wing with

cell-speck, a postmedial line most prominent on hind wing, and submarginal series of conjoined white spots.

Hab. Sikhim. *Exp.* 18 millim.

3716. **Larentia hockingii,** *Butl. Ill. Het.* vii, p. 115, pl. 137, fig. 12.

Head and thorax black, the vertex of head white; abdomen whitish. Fore wing with the base black, bounded by an oblique line; two indistinct medial lines, the inner angled below costa, a triangular black patch between the lines at costa and an oval patch on inner margin; traces of a diffused submarginal line, with a dark patch on it at costa and a spot below the apex. Hind wing whitish, with traces of waved postmedial and submarginal lines.

Hab. Dharmsála; Nágas. *Exp.* 20 millim.

3717. **Larentia lacernigera,** *Butl. Ill. Het.* vii, p. 109, pl. 136, fig. 15.

♂. Differs from *hockingii* in the basal black patch of fore wing having an erect outer edge; an indistinct fuscous medial band with slightly waved edges instead of the two lines and patches; a submarginal series of white specks, with a black patch inside them at costa.

Hab. Dharmsála. *Exp.* 18 millim.

3718. **Larentia schistacea,** *Moore, Lep. Atk.* p. 273; *C. & S.* no. 3811.

Leaden grey; vertex of head, thorax, and abdomen with patches of ferruginous. Fore wing with white-edged blackish basal patch; a white-edged medial band slightly suffused with fuscous and broadest at costa; white submarginal spots above middle and near anal angle. Hind wing very pale fuscous; underside with cell-speck and maculate postmedial line.

Hab. Dalhousie; Sikhim. *Exp.* 24 millim.

3719. **Larentia plumbeata,** *Moore, Lep. Atk.* p. 273; *C. & S.* no. 3810.

♀. Differs from *schistacea* in having more rufous on the head, thorax, and abdomen. Fore wing with the basal patch angled below median nervure and tinged with rufous; the medial band very slightly fuscous tinged, broad, and with waved fulvous edges; the outer edge angled below costa and bounding a triangular dark patch on costa, which has a white outer edge and a white speck below its apex. Hind wing fuscous grey; the cilia brownish; underside with black cell-speck and medial and maculate postmedial lines.

Hab. Sikhim. *Exp.* 30 millim.

3720. **Larentia olivacea,** *Warr. P. Z. S.* 1893, p. 382, pl. 30, fig. 6.

♀. Leaden grey; the head black. Fore wing with the costa tinged with ochreous; a black basal patch, becoming paler on inner area and bounded by a waved white line; an oblique medial black

patch with white edges on the costa shaped like two cones apex to apex; a white-edged grey mark on inner margin shaped like a "cottage-loaf"; a sinuous submarginal white line interrupted in places and with some fuscous suffusion inside it; cilia grey and fuscous. Hind wing with a series of black specks on the cilia; underside with cell-speck and waved postmedial line.

Hab. Sikhim, 10,000 feet. *Exp.* 34 millim.

3721. **Larentia niveopicta,** *Warr. P. Z. S.* 1893, p. 372, pl. 30, fig. 5.

Head white, the antennæ and sides of palpi black; thorax white, with the front part of tegulæ black; abdomen black, the basal segment white. Fore wing chestnut; a broad black antemedial band with waved white edges, dentate on median nervure and conjoined to the very irregular white-edged black postmedial band, which narrows towards inner margin and has two white costal strigæ on it, its outer edge dentate at vein 6 and bisinuate between veins 2 and 4; a very irregularly waved white submarginal line, the area beyond it chocolate at apex, black below apex; white at middle and outer angle. Hind wing white: traces of a sinuous postmedial line; the apex fuscous and some fuscous suffusion near anal angle; underside irrorated with black; well marked ante- and postmedial lines.

Hab. Sikhim, 10,000 feet. *Exp.*, ♂ 36, ♀ 40 millim.

3722. **Larentia lateritiata,** *Moore, Lep. Atk.* p. 273; *C. & S.* no. 3808.

♂. Differs from *cuprearia* in the fore wing not having the fringes of hair on underside in cell and on vein 4; upperside with the line defining the inner side of the medial area curved and approaching the subbasal line at inner margin.

Hab. Sikhim. *Exp.* 40 millim.

b². *Male with a dense fringe of long downwardly directed hair on underside of fore wing in the cell from below subcostal nervure, and along vein 4 met by a sparse fringe of upwardly directed hair from below median nervure.*

3723. **Larentia cuprearia,** *Moore, P. Z. S.* 1867, p. 656; *C. & S.* no. 3807.

♂. Rather pale rufous; abdomen with slight black dorsal segmental bands. Fore wing with traces of numerous minutely waved lines; the basal area defined by a dark oblique straight line; the medial area by an oblique straight line on its inner edge, and a crenulate line angled below vein 4 on its outer edge; an indistinct submarginal crenulate grey line. Hind wing white; the margin and cilia at anal angle brownish.

Hab. Sikhim. *Exp.* 40 millim.

SECT. II. Wings clothed with hair-like scales; claspers of male large and exserted.

A. (*Polyphasia*). Antennæ of male ciliated.

3724. **Larentia truncata**, *Hüfn. Berl. Mag.* iv, p. 602.
Geometra russata, *Schiff. Wien. Verz.* p. 113.
Phalæna immanata, *Haw. Lep. Brit.* p. 323.
Cidaria subapicaria, *Moore, P. Z. S.* 1867, p. 663; *C. & S.* no. 3871.
Cidaria calamistrata, *Moore, P. Z. S.* 1867, p. 662, pl. 33, fig. 6; *C. & S.* no. 3847.
Cidaria cinereata, *Moore, P. Z. S.* 1867, p. 662; *C. & S.* no. 3850.
Polyphasia albiangulata, *Warr. P. Z. S.* 1893, p. 373.

The typical form has the head, thorax, and abdomen fuscous and grey. Fore wing with the base grey-brown, with waved subbasal line; a chestnut antemedial band angled below costa and edged by waved black lines; the medial band broad and white, with two waved black lines on it, which enclose a black discocellular speck and form an annulus and figure-of-8-shaped mark below the cell, its outer edge oblique from the costa to vein 4, where it is doubly toothed, then inwardly-oblique and strongly toothed to inner margin; a dentate grey submarginal line, with chestnut between it and the marginal band. Hind wing pale fuscous brown; underside with cell-speck and irregularly curved line.

The Himalayan form nearest to the typical European form is *calamistrata*, which differs in the abdomen and hind wing being white; *cinereata* has the whole base of fore wing rufous, the grey of the medial band extending over the whole outer area except the apex and a chestnut submarginal spot on inner margin, the waved lines and edges to the band obsolescent; in another form the area between end of cell and outer angle is suffused with pale rufous.

Another set of forms are grey suffused in parts with fuscous, or with the medial band of fore wing clear grey.

The form *immanata*, of which typical specimens occur in the N.W. Himalayas, has the medial band dark; whilst another form has the fore wing uniform rufous, except for the four waved lines, which are whitish; and another form with the dark band has its white edges connected by a bar above vein 1.

Subapicaria is a dark form from Sikhim, usually with a prominent white patch on the costa of fore wing beyond the medial band; the hind wing black-brown; another form has the cell-spot on a large white patch extending to the costa, and the postmedial line white throughout: the form *albiangulata* has a red antemedial band; an oblique white bar from middle of costa to lower angle of cell; the postmedial line replaced by a white band angled outwards almost to the margin at vein 4 and acutely inwards below vein 2, sending a tooth inwards below vein 6, and with a red maculate band, most prominent near costa, beyond it.

Hab. Nearctic and Palæarctic regions; Himalayas; Khásis.
Exp. 36–42 millim.

3725. **Larentia albiseriata**, *Warr. P. Z. S.* 1893, p. 373.

Head and thorax black and olive; abdomen black, irrorated with grey, and with segmental grey rings. Fore wing black, irrorated with olive-yellow; traces of waved antemedial and medial lines; three white spots on discocellulars. A postmedial waved grey line produced to teeth at veins 6 and 4; a submarginal waved olive-yellow line; a series of marginal grey spots. Hind wing fuscous; the apex white; a marginal black line. Underside with the margin whitish, especially at apex of each wing.

Hab. Sikhim, 10,000 feet. *Exp.* 45 millim.

B. *Antennæ of male serrate and with fascicles of cilia.*

3726. **Larentia undulata**, *Warr. P. Z. S.* 1888, p. 326; *C. & S.* no. 3893 A.

Grey and brown. Fore wing with the basal area dark and bounded by a double slightly waved line; the medial area dark with a double oblique line, slightly excurved in the cell, on its inner edge, a black cell-spot, and a double postmedial line angled beyond the cell on its outer edge, the outer of the postmedial lines crenulate and sending black streaks inwards on the veins; the outer area with a slight rufous tinge between the postmedial line and waved grey submarginal line; an oblique black streak from the apex. Hind wing reddish brown, with highly curved postmedial line.

Hab. Thundiáni, Punjab. *Exp.* 36 millim.

C. *Antennæ of the male with two pairs of short cilia-bearing processes from each joint.*

3727. **Larentia dentifasciata**, n. sp.

Reddish grey-brown. Fore wing with antemedial curved whitish line, slightly angled in cell, and with fuscous suffusion on its inner edge; a broad blackish postmedial band with a discocellular black lunule on it; its edges whitish, the inner edge curved, the outer oblique from the costa to vein 4, then highly dentate aud inwardly oblique to inner margin; an indistinct waved grey submarginal line and oblique black streak from apex. Hind wing brownish grey, with speck at end of cell and postmedial line angled on vein 4.

Hab. Dalhousie; Murree (*Harford*). *Exp.*, ♂ 36, ♀ 40 millim. Type in B. M.

3728. **Larentia comis**, *Butl. A. M. N. H.* (5) iv, p. 443.

Differs from *dentifasciata* in the antennal processes being longer; no rufous tinge; the postmedial band rounded at vein 4, not dentate and not so narrow at inner margin.

In the Sikhim specimen the antemedial line and inner edge of postmedial band are less waved than in the Japanese type.

Hab. Japan; Sikhim, 13,000 feet. *Exp.* 36 millim.

D. (Thera). *Antennæ of male bipectinated.*

3729. **Larentia consimilis**, *Warr. P. Z. S.* 1888, p. 326; *Butl. Ill. Het.* vii, pl. 137, fig. 14; *C. & S.* no. 3891 A.

Greyish fuscous. Fore wing with two indistinct antemedial lines angled below the costa; two dentate postmedial lines highly angled beyond the cell, the area between them usually darker, especially from costa to vein 4 and above inner margin; an oblique zigzag streak from apex meeting the angle of the postmedial band; an indistinct pale waved submarginal line. Hind wing paler, with indistinct highly curved postmedial line. The veins of the fore wing are often streaked with black.

Hab. Afghanistan; N.W. Himalayas. *Exp.*, ♂ 32, ♀ 40 millim.

Genus PHOTOSCOTOSIA.

Photoscotosia, *Warr. P. Z. S.* 1888, p. 328.
Trichopleura, *Staud. Stettin. ent. Zeit.* xliii, p. 68 (1882), præocc.
Lasiogma, *Meyr. Trans. Ent. Soc.* 1892, p. 70.

Type, *P. miniosata*, Wlk.

Range. Siberia; Japan; Himalayas; Sylhet.

Palpi clothed with hair and reaching just beyond the sharp frontal tuft; antennæ of male ciliated; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from near angle of cell, 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing with the costa much arched, especially in male; vein 3 from near angle of cell; 5 from above middle of discocellulars, which are oblique; 6, 7 stalked; 8 anastomosing with 7 to beyond middle of cell, then much curved.

SECT. I. Fore wing of male with a fringe of long hair below median nervure on underside.

3730. **Photoscotosia miniosata**, *Wlk. Cat.* xxv, p. 1354; *C. & S.* no. 3821.

Photoscotosia stigmatica, *Warr. Nov. Zool.* p. 680.

♂. Red-brown. Fore wing with indistinct double subbasal and antemedial slightly waved lines, the latter with a prominent sinuous

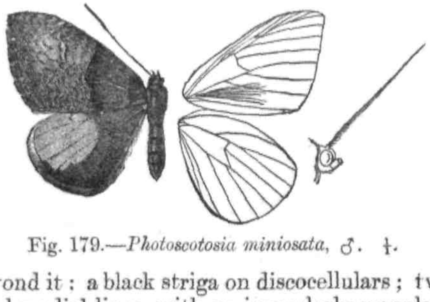

Fig. 179.—*Photoscotosia miniosata*, ♂. 1/1.

black line beyond it: a black striga on discocellulars; two indistinct slightly waved medial lines, with an irregularly crenulate black line

beyond them toothed below costa; outer area with some indistinct crenulate lines and a subapical pale speck. Hind wing fuscous brown, with a very large bright orange apical patch extending down to vein 4 and pale at the costa. Both wings with marginal black line. Underside with diffused orange postmedial band on fore wing.

♀. Greyer, with the basal half of the fore wing blackish.

Hab. N.W. and E. Himalayas; Sylhet. *Exp.* 52 millim.

3731. **Photoscotosia obliquisignata,** *Moore, P. Z. S.* 1867, p. 657; *C. & S.* no. 3823.

♂. Differs from *miniosata* in being black-brown. Fore wing with all the lines pale; the subbasal line straight and oblique; the antemedial line angled on median nervure; a diffused pale brown patch from middle of costa to middle of postmedial line, which is not toothed below costa, but excurved at middle and with white specks on it at veins 2, 3, and 4; the lines beyond it sinuous; an oblique pale streak from apex and no subapical spot; a pale submarginal line. Underside of fore wing with the costal spot joined to the apical patch; an ochreous spot at apex. Hind wing with an apical fuscous patch and no postmedial line.

♀ with an oblique white patch from costa of fore wing to lower angle of cell, instead of the large pale brown patch. Hind wing with the costal area fuscous, the apical orange patch being reduced.

Hab. Sikhim. *Exp.* 54 millim.

3732. **Photoscotosia nubilata,** *Moore, Lep. Atk.* p. 274; *C. & S.* no. 3822.

♂. Dark brown. Fore wing with numerous waved grey lines on the basal area; a broad rufous medial band with waved edges; some grey suffusion with waved lines on it beyond the band and running out to a point below apex; three submarginal white specks below apex. Hind wing with the costal area yellowish white; the cilia ochreous at apex.

A variety has the apical area of hind wing, except the extreme apex, dark; the underside more fuscous.

Hab. Sikhim. *Exp.* 48 millim.

3733. **Photoscotosia fulguritis,** *Warr. P. Z. S.* 1893, p. 370, pl. 30, fig. 11.

Photoscotosia keraria, *Swinh. A. M. N. H.* (6) xii, p. 224.

♂. Black-brown, with a very slight rufous tinge. Fore wing with traces of numerous waved black lines; a curved subbasal grey line; the medial area defined by whitish waved lines, the inner line highly dentate on median nervure, the outer angled on vein 4; an indistinct pale submarginal line crossed by an oblique white streak from apex. Hind wing fuscous; the costal area down to vein 4 whitish; an indistinct pale waved submarginal line.

♀ with almost the whole hind wing fuscous.

Hab. Sikhim. *Exp.* 46 millim.

3734. **Photoscotosia amplicata**, *Wlk. Cat.* xxv, p. 1404; *C. & S.* no. 3841.
Cidaria trisignata, *Moore, P. Z. S.* 1867, p. 663.
Trichopleura dejeani, *Oberth. Et. Ent.* xviii, p. 40, pl. 4, fig. 51.

♂. Black and grey. Fore wing with numerous waved black lines; some rufous between two of the subbasal lines and on medial area, which is defined by irregularly waved grey lines, the inner slightly angled on median nervure, the outer below costa and on vein 4, this medial area traversed by a waved grey line, inside which on the costal area is a white patch; a waved grey submarginal line. Hind wing greyish fuscous, the costal half whitish; traces of a waved grey submarginal line.

♀ with the pale area of hind wing reduced to an apical patch.

Hab. China; Tibet; N.W. Himalayas; Sikhim. *Exp.* 52 millim.

3735. **Photoscotosia undulosa**, *Alpheraki, Rom. Mem.* vi, p. 78, pl. iii, fig. 9.
Photoscotosia multilinea, *Warr. P. Z. S.* 1893, p. 369, pl. 30, fig. 10.

♂. Head fuscous; thorax rufous; abdomen grey. Fore wing with the basal half rufous, with traces of waved lines on it and darkening to the sinuous medial line; a grey antemedial band with waved fuscous lines on it; the outer area purplish grey-brown, with a black discocellular striga; a crenulate postmedial dark line, dentate, and with a rufous patch inside it below the costa, and with greyish patches with fuscous waved lines on them beyond it at costa and inner margin. Hind wing purplish grey-brown, with traces of grey patches near anal angle.

Hab. China; Tibet; Sikhim. *Exp.* 54 millim.

3736. **Photoscotosia atromarginata**, *Warr. P. Z. S.* 1893, p. 369, pl. 30, fig. 1.

♂. Head and thorax black-brown; abdomen grey-brown, with black segmental lines. Fore wing rufous, suffused with olive-green, except on medial and submarginal areas, and with traces of waved lines; a subbasal curved black line; the antemedial black line curved, dentate on median nervure and with diffused black beyond it; the postmedial line dentate below costa and from vein 4 to inner margin, where it approaches the antemedial line; an oblique streak from apex and series of strigæ on the margin. Hind wing pure white, with a patch of fuscous and black strigæ on the anal half of outer margin.

Hab. Sikhim, 10,000 feet. *Exp.* 38 millim.

3737. **Photoscotosia bicolor**, *Moore, Lep. Atk.* p. 278; *C. & S.* no. 3846.
Larentia tonchignearia, *Oberth. Et. Ent.* xviii, p. 38, pl. v, figs. 66, 67.

Greyish fuscous. Fore wing with numerous indistinct waved black lines; a slight diffused whitish patch from costa of fore wing

to lower angle of cell. Hind wing with the base and outer area fuscous, the medial area white; a small apical white patch. Underside of fore wing with the white patch broad and extending from costa to vein 2; an apical white spot.

Hab. Sikhim; Tibet. *Exp.* 44 millim.

SECT. II. Fore wing of male with a tuft of long hair on underside from above base of vein 1; a patch of shorter hair from above its middle, and a fringe of long hair below it from near base to beyond middle.

3738. **Photoscotosia venipicta**, *Warr. P. Z. S.* 1893, p. 370.

♂. Dark rufous brown, suffused with fuscous. Fore wing with subbasal rufous band, conjoined at costa and above inner margin to the antemedial band, which is highly angled on median nervure and sends streaks along veins 2, 3, 4 to join the waved postmedial band, all these bands being traversed by dark lines; an indistinct annulate medial band; a waved grey line beyond the postmedial band, with a sinuous rufous line beyond it bent out to the apex. Hind wing pale reddish brown, suffused with fuscous; the apical area ochreous; two waved postmedial lines.

Hab. Sikhim. *Exp.* 50 millim.

3739. **Photoscotosia aurantiaria**, *Moore, P. Z. S.* 1867, p. 661, pl. 33, fig. 8; *C. & S.* no. 3843.

♂. Black-brown; the head, thorax, and abdomen with grey markings. Fore wing with an antemedial band formed of three sinuous lines, sending a streak along vein 2 to the postmedial band, then narrowing to inner margin; a postmedial band consisting of two grey lines joined by two lines from costa near apex, sending a tooth inwards on vein 3 and teeth outwards along veins 2, 3, 4, which are streaked with orange, to the margin. Hind wing bright orange; the inner margin and outer margin near anal angle pale, with fuscous markings. Underside with the tufts pale.

Hab. Sikhim. *Exp.* 48 millim.

Genus **CALLABRAXAS**.

Callabraxas, *Butl. A. M. N. H.* (5) vi, p. 226 (1880).

Type, *C. amanda*, Butl.

Range. Sikhim.

Palpi short, upturned, and roughly scaled; the frons smooth; antennæ of male minutely ciliated; hind tibiæ with two pairs of spurs. Fore wing of male with tufts of long white hair from below base of median nervure and from base of vein 1, and tufts of short dark hair from above middle of vein 1 and from above middle of inner margin; vein 3 from angle of cell; 5 from above middle of discocellulars, which are very oblique; 6 from above angle of cell; 10 anastomosing with 11 and then with 8, 9 to form

the very long double areole. Hind wing with the costa much arched; vein 3 from close to angle of cell; 5 from above middle of discocellulars, which are oblique; 6, 7 stalked; 8 anastomosing with 7 to beyond middle of cell, then much curved.

3740. **Callabraxas amanda**, *Butl. A. M. N. H.* (5) vi, p. 226; *id. Ill. Het.* vi, pl. 119, fig. 12; *C. & S.* no. 3725.

Head blackish; thorax ochreous, with black spots on collar and patagia; abdomen ochreous, with dorsal and lateral series of black spots. Fore wing with the basal half ferruginous brown, with two curved subbasal grey and white lines; an antemedial line highly excurved on median nervure; a **V**-shaped medial grey and white mark on costa and medial white spot on inner margin; the outer area white, with a fuscous patch on costa near apex and

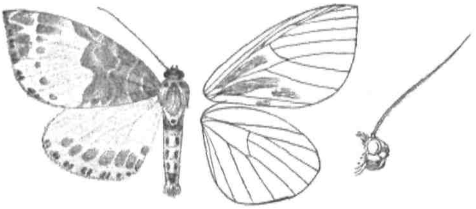

Fig. 180.—*Callabraxas amanda*, ♂. ½.

submarginal series of spots, which may be almost obsolete; fuscous patches at apex and on margin below apex; a series of marginal spots, each bisected by a white vein. Hind wing white, with two fuscous spots on inner margin beyond middle; a submarginal series of spots from vein 6 to anal angle, the area beyond them orange; a marginal series of spots bisected by the veins.

Hab. Sikhim. *Exp.* 54 millim.

Genus **GANDARITIS**.

Gandaritis, *Moore, P. Z. S.* 1867, p. 660.

Type, *G. flavata*, Moore.

Range. Japan; China; Khásis.

Palpi porrect, the 2nd joint clothed with hair and reaching beyond the frontal tuft, the 3rd naked; antennæ of male almost simple; hind tibiæ with two pairs of spurs; abdomen long and slender. Fore wing with the costa highly arched towards apex, which is acute and produced; the outer margin much curved; vein 3 from before angle of cell; 5 from above middle of discocellulars; 6 from above angle of cell; 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing with the costa much arched; vein 3 near angle of cell; 5 usually from above middle of discocellulars, which are oblique; 6, 7 stalked; 8 anastomosing with 7 to beyond middle of cell, then much curved, the apex extending to beyond the outer angle of fore wing.

In the Japanese *fixseni*, Brem., there are no secondary sexual characters on the fore wing; in *dotata*, Linn., from Europe, *flavata*, *agnes*, Butl., and another undescribed species from Japan, vein 2 of the fore wing is much curved in the male, with a small hair-fringed hyaline scar below its middle, through the centre of which runs the aborted vein 1 *c*, which is much bent, bearing a row of sharp spines probably for producing sound; below this scar is a large shallow fovea, slightly developed in *flavata*, more strongly in *agnes*, which has the discocellulars of hind wing angled and vein 5 from below their middle, as is the case also in *dotata*.

3741. **Gandaritis flavata**, *Moore, P. Z. S.* 1867, p. 660; *Waterh. Aid*, pl. 184, fig. 7; *C. & S.* no. 3836.

♂. Bright orange-yellow. Fore wing slightly suffused with fuscous, except on the apical costal area, which is paler yellow; two indistinct subbasal waved lines; a medial line sinuous from costa to lower angle of cell, then inwardly oblique; traces of a line beyond it; a postmedial line with traces of a line inside it, very highly angled on vein 5, where it is met by an oblique streak

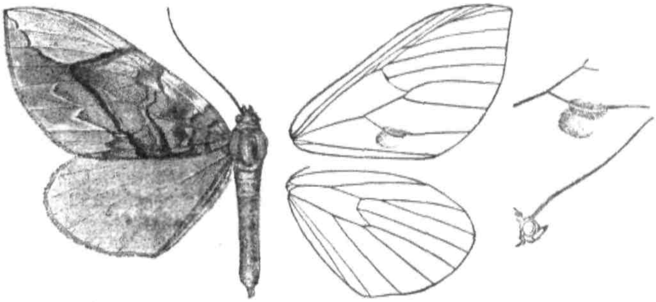

Fig. 181.—*Gandaritis flavata*, ♂. ½.

from apex; traces of a pale waved submarginal line. Hind wing with traces of waved and curved medial and postmedial lines.

In the Chinese specimen on the hind wing a curved black medial band is developed, running up the median nervure to the base, and prominent lunulate, black, postmedial and submarginal bands.

Hab. Nankow Pass, China; Khásis. *Exp.* 76 millim.

Genus **PHYSETOBASIS**, nov.

Type, *P. annulata*, Hmpsn.

Range. N. W. Himalayas; Khásis; Nilgiris.

Palpi slender and hardly reaching beyond the frons, which is rounded; antennæ of male somewhat thickened and flattened; hind tibiæ with two pairs of spurs. Fore wing narrow and elongate; the outer margin very oblique; male with the retinaculum a large spatulate plate; a deep groove on the underside at base of

vein 1, forming a high ridge on upperside with a shallow fovea above it; vein 3 from near angle of cell; 5 from middle of discocellulars; 6 from just below upper angle; 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing narrow; the margin crenulate; the base of costa contorted in male; vein 3 from well before end of cell; 5 from middle of discocellulars, which are oblique; 6, 7 on a long stalk; 8 anastomosing with 7 to near end of cell.

3742. **Physetobasis annulata**, *Hmpsn. Ill. Het.* viii, p. 116, pl. 152, fig. 11.

Grey; abdomen with dorsal and lateral series of black spots. Fore wing with subbasal, antemedial, and postmedial series of black spots with whitish edges, the costal spots elongate; a black lunule with whitish edge at end of cell; an indistinct fuscous line highly angled beyond upper angle of cell, then oblique to inner margin: a regularly crenulate submarginal whitish line. Hind wing with cell-speck; traces of medial line, postmedial series of black spots on the veins, with whitish edges; a crenulate whitish submarginal line; cilia of both wings chequered grey and whitish. Underside of both wings with prominent black cell-spot and postmedial series of black spots.

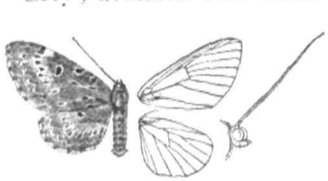

Fig. 182.
Physetobasis annulata, ♂. ½.

Hab. Nilgiris. *Exp.* 36 millim.

3743. **Physetobasis griseipennis**, *Moore, Lep. Atk.* p. 269, pl. 8, fig. 28; *C. & S. no.* 3772.

♀. Head, thorax, and abdomen fuscous grey, the last with a white line on 2nd segment. Fore wing lilacine grey; the base fuscous, bounded by a sinuous white line excurved below costa; the medial area fuscous, with an indistinct sinuous line at middle and edged by white lines, the inner produced to an angle below costa, then oblique, the outer sinuous and much incurved below vein 4; a large oval white-edged black discocellular spot; the outer area slightly suffused with fuscous; a grey submarginal line. Hind wing paler, with cell-speck and postmedial pale-edged line; a white streak at anal angle.

Hab. Khásis. *Exp.* 34 millim.

3744. **Physetobasis dentifascia**, n. sp.

♂. Fuscous brown. Fore wing with dark white-edged antemedial sinuous line; the medial area slightly darker, with a large oblique black discocellular spot and edged by black lines, the inner highly excurved, then bent inwards above inner margin, the outer waved and dentate, angled at veins 6 and 4, then bent inwards

and sending teeth inwards on veins 2 and 1; an indistinct pale crenulate submarginal line. Hind wing with antemedial line produced to an angle at lower end of cell: the postmedial line angled at vein 4, then dentate to inner margin; a crenulate grey submarginal line.

Hab. Dharmsála (*Hocking*). *Exp.* 30 millim. Type in B. M.

Genus **POMASIA**.

Pomasia, *Guen. Phal.* i. p. 427 (1857).
Leiocera, *Hmpsn. Ill. Het.* ix, p. 152 (1893).

Type, *P. psylaria*, Guen.

Range. Khásis; Nágas; Ceylon; Mergui; Borneo.

Palpi porrect, the 2nd joint reaching beyond the short sharp frontal tuft, the 3rd long and naked; antennæ of male minutely ciliated; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked; 10, 11 stalked, 10 anastomosing with 8, 9 to form the areole. Hind wing with vein 3 from before angle of cell; 5 from middle of discocellulars, which are angled, 6, 7 stalked.

3745. **Pomasia psylaria**, *Guen. Phal.* i, p. 428; *Moore, Lep. Ceyl.* iii, pl. 200, fig. 2; *C. & S.* no. 4005.

Bright rufous; head, thorax, and abdomen banded with greyish white. Fore wing with the costa orange, with black patches and strigæ; a grey fascia below the costa; a basal grey spot; six irregularly waved grey lines outlined in black; the veins streaked with grey and black; outer margin orange, with black patches at veins 2 and 4. Hind wing with a basal grey spot; five waved grey lines outlined in black; the outer margin orange, with a black patch at vein 4. Underside suffused with pale fuscous.

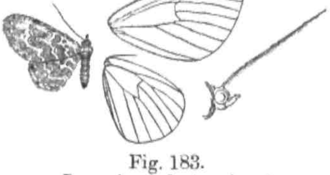

Fig. 183.
Pomasia psylaria, ♂. 1/1.

Hab. Ceylon. *Exp.*, ♂ 28, ♀ 32 millim.

3746. **Pomasia reticulata**, n. sp.

♀. Bright orange; head, thorax, and abdomen spotted with black. Fore wing with double subbasal, antemedial, medial, postmedial, and submarginal waved dark lines connected in many places by irregular, rectangular, or stellate blotches; a dentate line just inside the margin and two spots on the margin. Hind wing with antemedial, medial, postmedial, and submarginal double waved lines with a few blotches on them; a dentate line close to the margin and two spots on the margin.

Hab. Mergui (*Doherty*). *Exp.* 24 millim. Type in coll. Druce

3747. **Pomasia denticlathrata**, *Warr. P. Z. S.* 1893, p. 367.

♂. Pale yellow; head, thorax, and abdomen spotted and reticulated with red-brown. Fore wing with some fifteen waved red-brown lines connected in many places by patches of red-brown. Hind wing with some eight waved red-brown lines. Both wings with waved marginal line; the cilia pale and red-brown. Underside orange-fulvous.

Hab. Khásis; Nágas. *Exp.* 21 millim.

3748. **Pomasia pulchrilinea**, *Wlk. Cat.* xxxv, p. 1675.
Leiocera axis, *Hmpsn. Ill. Het.* ix, p. 153, pl. 170, fig. 22.
Pomasia moniliata, *Warr. P. Z. S.* 1893, p. 367, pl. 32, fig. 9.

Fawn-colour. Fore wing with double subbasal, ante- and postmedial waved white lines arising from ochreous specks on the costa; a submarginal crenulate white line with four black lunules on it below apex and a black streak crossing it above inner margin. Hind wing with antemedial and medial waved white lines; three submarginal lines with some black specks on them.

Hab. Khásis; Ceylon; Borneo. *Exp.* 20 millim.

Genus GYMNOSCELIS.

Gymnoscelis, *Mab. Ann. Soc. Ent. Fr.* (4) vii, p. 656 (1867).

Type, *G. pumilata*, Hübn., from Europe.

Range. Palæarctic, Oriental, and Australian regions.

Palpi porrect, the 2nd joint clothed with hair and reaching beyond the frontal tuft, the 3rd prominent; antennæ of male ciliated; hind tibiæ with a terminal pair of spurs, and rarely with a very minute medial pair; abdomen with slight dorsal crests. Fore wing with vein 3 from close to angle of cell; 5 from middle of discocellulars; 6 from upper angle; 10, 11 stalked, 10 anastomosing with 7, 8, 9 to form the areole, and 11 anastomosing with 12. Hind wing with veins 3, 4 from angle of cell; 5 from middle of discocellulars; 6, 7 from upper angle; 8 anastomosing with 7 to beyond middle of cell.

SECT. I. Hind tibiæ with the medial pair of spurs absent.

A. *Palpi reaching far beyond the frons; fore wing of normal breadth.*

a. *Male without thick tufts of leaden-coloured scales at extremity of mid and hind tibiæ.*

3749. **Gymnoscelis ectochlora**, *Hmpsn. Ill. Het.* viii, p. 118, pl. 152, fig. 19.

Olive-green, irrorated with black. Fore wing with the broad medial area rufous, irrorated or suffused with black and edged by waved black lines, angled on median nervure and vein 4; a pale waved submarginal line with the area beyond it rufous, with a pale diffused patch at middle. Hind wing with the rufous area

extending to the base. Underside fuscous, with cell-spots and curved postmedial line.

The green often fades and the insect appears to be rufous and ochreous.

Hab. Sikhim; Formosa; Nilgiris; Ceylon. *Exp.* 22 millim.

3750. **Gymnoscelis deleta,** *Hmpsn. Ill. Het.* viii, p. 118, pl. 152, fig. 20.

Rufous, suffused and irrorated with black. Fore wing with traces of subbasal and antemedial waved lines angled below costa: the medial area with an indistinct waved line at its middle and defined by black lines, the inner highly angled in cell, the outer oblique from costa to vein 4, where it is angled; the outer area with a pale patch from the postmedial line to apex and a less prominent patch at middle; a submarginal waved dark line with blackish mark at costa and crossed by two black streaks below apex. Hind wing with indistinct waved subbasal, antemedial, postmedial, and submarginal lines, the postmedial double, angled at vein 6 and with ochreous beyond it, especially on inner area; a large pale spot at middle of outer area. Underside fuscous, with pale patches; a postmedial line angled at vein 4 of fore wing and 6 of hind wing; a curved submarginal line.

Hab. Nilgiris; Ceylon. *Exp.* 20–26 millim.

3751. **Gymnoscelis fasciata,** *Hmpsn. Ill. Het.* viii, p. 118, pl. 152 fig. 22.

Whitish, with a slight brown tinge and thickly irrorated with black; abdomen banded with black. Fore wing with diffused subbasal, medial, postmedial, and submarginal waved black bands, the medial and postmedial bands with fine black lines beyond them. Hind wing with the bands and lines better defined.

Hab. Nilgiris; Alu, Solomon Islands. *Exp.* 20 millim.

3752. **Gymnoscelis roseifascia,** *Hmpsn. Ill. Het.* ix, p. 153, pl. 170, fig. 4.

♀. Head, thorax, and abdomen olive-green, slightly marked with black. Fore wing with the basal half green, mostly suffused with black in the form of diffused subbasal and antemedial bands;

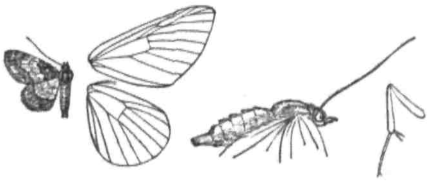

Fig. 184.—*Gymnoscelis roseifascia,* ♀. ⅟.

the medial area pale pink, with two faint waved lines on it and bounded by a waved fuscous and grey line; the postmedial area green; a fuscous and grey waved submarginal line, the area beyond it pinkish with a pale spot at middle. Hind wing similar; the

pink area extending to the base and with a minute discocellular speck; the pale spot small. Underside fuscous, with curved postmedial line.

Hab. Ceylon. *Exp.* 20 millim.

b. (Iramba). *Male with thick tufts of leaden-coloured scales at extremity of mid and hind tibiæ.*

3753. **Gymnoscelis tibialis**, *Moore, Lep. Ceyl.* iii, p. 481, pl. 206, fig. 2; *C. & S.* no. 3789.

Differs from *ectochlora* in being browner olive; the medial area of fore wing suffused with fuscous; the postmedial line of fore wing straight and oblique from costa to the angle at vein 4.

Hab. Ceylon. *Exp.* 20 millim.

B. *Palpi much shorter; fore wing long and narrow, especially in male.*

3754. **Gymnoscelis tristrigosa**, *Butl. P. Z. S.* 1880, p. 688.

Rufous, slightly irrorated with black; head, thorax, and abdomen with black markings. Fore wing with diffused black fascia from base of inner margin to the costa at origin of the postmedial line, which is indistinct and angled at vein 4, the fascia then narrowing and continued above vein 4 to outer margin. Hind wing with a postmedial line highly angled at vein 6; a curved slightly waved submarginal line.

Hab. Formosa; Ceylon. *Exp.* 22 millim.

SECT. II. Hind tibiæ with a very minute medial pair of spurs.

3755. **Gymnoscelis polyclealis**, *Wlk. Cat.* xix, p. 998; *Hmpsn. Ill. Het.* ix, pl. 170, fig. 23; *C. & S.* no. 3776.
Eupithecia attenuata, *Moore, Lep. Ceyl.* iii, p. 479, pl. 206, fig. 3; *C. & S.* no. 3767.

Fuscous brown, with a slight purplish tinge; palpi and frons jet-black. Fore wing with the broad medial area defined by waved black lines, edged with grey, the outer line produced to an angle at vein 4; an indistinct curved submarginal line. Hind wing with traces of subbasal and medial lines; a postmedial waved line excurved from vein 2 to 4, and with whitish patches on its outer edge below veins 6 and 2; a waved white submarginal line with whitish patch on it at middle.

The form *attenuata* has no black on the lines of fore wing; hind wing with the two whitish patches on the postmedial line absent.

Hab. Ceylon. *Exp.* 22 millim.

Genus **CHLOROCLYSTIS.**

Chloroclystis, *Hübn. Verz.* p. 323 (? 1818).
Ziridava, *Wlk. Cat.* xxvi, p. 1550 (1862).
Phrissogonus, *Butl. A. M. N. H.* (5) ix, p. 94 (1882).
Pasiphila, *Meyrick, New Zealand Journal of Science*, i, p. 527 (1883).

Calluga, *Moore, Lep. Ceyl.* iii, p. 480 (1887).
Ardonis, *Moore, Lep. Atk.* p. 269 (1888).
Axinoptera, *Hmpsn. Ill. Het.* ix, p. 154 (1893).
Ceratorhynchus, *Hmpsn. Ill. Het.* ix, p. 154.

Type, *C. coronata*, Hübn., from Europe.

Range. Palæarctic region; Himalayas; Assam; Burma; Nilgiris; Ceylon; Australia; New Zealand.

Palpi with the 2nd joint thickly scaled and reaching beyond the sharp frontal tuft, the 3rd joint prominent; antennæ of male annulated; hind tibiæ with two pairs of spurs *; abdomen with slight dorsal crests. Fore wing with vein 3 from angle of cell; 5 from middle of discocellulars; 6 from upper angle; 10, 11 stalked, 10 anastomosing with 7, 8, 9 to form the large areole †, and 11 becoming coincident with 12. Hind wing with vein 5 from middle of discocellulars; 6, 7 stalked; 8 anastomosing with 7 to beyond middle of cell.

SECT. I. (*Liridava*). Palpi with the 2nd joint reaching far beyond the frontal tuft; hind wing with vein 3 from before angle of cell.

A. *Hind wing without tufts or fovea below lower angle of cell.*

3756. **Chloroclystis palpata**, *Wlk. Cat.* xxv, p. 1404; *Moore, Lep. Ceyl.* iii, pl. 206, fig. 6; *C. & S.* no. 3775.
Lobophora julia, *Butl. Ill. Het.* iii, p. 53, pl. 54, fig. 4.
Lobophora excisa, *Butl. Ill. Het.* iii, p. 52, pl. 53, fig. 11.
Eupithecia variegata, *Moore, Lep. Ceyl.* iii, p. 479, pl. 206, fig. 5; *C. & S.* no. 3782.
Eupithecia virescens, *Moore, Lep. Ceyl.* iii, p. 479, pl. 206, fig. 4; *C. & S.* no. 3783.

Grass-green, irrorated with black and with more or less vinous-red suffusion; abdomen with the 2nd segment blackish. Fore wing with the veins speckled with black; a subbasal line; an antemedial vinous and black band, with a line beyond it; the medial area vinous and black, with a black cell-spot and edged by black lines, the outer edge angled at veins 6 and 4 and with white between those points; a postmedial series of black specks; a submarginal vinous band with a black line on it and black inner edge, outwardly edged by a crenulate white line; cilia green and black. Hind wing pale fuscous or whitish, with traces of waved lines on outer area.

Many specimens are almost entirely suffused with vinous, others have the medial area of fore wing black.

Hab. Japan; Dharmsála; Sikhim; Nilgiris; Ceylon. *Exp.* 24 millim.

3757. **Chloroclystis intentata**, *Wlk. Cat.* xxxv, p. 1676.

♂. Green (fading to ochreous), irrorated with black. Fore wing with a slightly curved black subbasal line with two faint lines between it and the medial area, which is thickly irrorated with black, edged by black lines, and has three minutely waved

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* Except in male of *costalis*. † Except in male of *subcostalis*.

black lines on it angled below costa, the outer edge angled at vein 4 and outlined with white; a sinuous pale submarginal line with diffused black on its inner edge. Hind wing pale fuscous; both wings with black marginal line; the cilia chequered black and green.

Hab. Ceylon; Borneo. *Exp.* 22 millim.

3758. **Chloroclystis rubrinotata**, *Warr. P. Z. S.* 1893, p. 384.

♀. Green (fading to ochreous); abdomen with black band on 2nd segment; wings with traces of waved lines. Fore wing with a slight subbasal line; a large rufous quadrate patch on costal area, bounded on inner side by an oblique black line, and on outer side by a black line, and extending to lower angle of cell; a medial speck on median nervure and a postmedial series of specks on the veins; traces of a submarginal line. Hind wing with three indistinct lines on basal half; a series of prominent black specks on the postmedial line. Underside with prominent cell-spots and postmedial line.

The species figured on pl. 30, fig. 22, is *Eupithecia rufipicta* (see p. 401).

Hab. Sikhim. *Exp.* 24 millim.

3759. **Chloroclystis deletarius**, *Hmpsn. Ill. Het.* ix, p. 154, pl. 170, fig. 20.

♀. Green (fading to ochreous). Fore wing with a black patch on base of costa, with a line from its outer edge to inner margin; antemedial, medial, and postmedial irregular black lines, the medial line with traces of a cell-spot beyond it, the postmedial produced to a strong angle at vein 4 and lesser angle below vein 2; a submarginal pale waved line with slight suffusion inside it, and dark patch beyond it above middle and at outer angle. Hind wing with curved black antemedial line, and postmedial line angled at vein 4; traces of a submarginal pale waved line with darker suffusion inside it. Underside much suffused with fuscous; prominent black cell-spots; medial and postmedial lines, the latter angled at vein 4; a less distinct submarginal line.

Hab. Khásis; Ceylon. *Exp.* 30 millim.

3760. **Chloroclystis xylinaria**, *Wlk. Cat.* xxvi, p. 1550.
Menophra rubridisca, *Hmpsn. Ill. Het.* viii, p. 106, pl. 150, fig. 8.

Very pale brown, irrorated with rufous, fuscous, and silvery scales. Fore wing with four lines between the base and middle, very highly angled below costa, and dark, then rufous and oblique to inner margin; a large fuscous and rufous patch beyond the cell bounded by the double postmedial line, which is angled beyond the cell, then incurved to inner margin, and with an indistinct dentate line beyond it; a rufous and fuscous patch on the margin below apex; an indistinct almost straight, pale submarginal line. Hind wing with traces of numerous waved lines; a subbasal dark

band; a postmedial rufous line angled beyond cell, and with dark marks inside it from vein 4 to inner margin.

Hab. Khásis; Nilgiris; Ceylon; Borneo. *Exp.*, ♂ 28, ♀ 34 millim.

B. *Male with a tuft of hair on upperside of hind wing at lower angle of cell, and a smaller tuft at anal angle, with a fovea between the two tufts.*

3761. **Chloroclystis filicata,** *Swinh. Trans. Ent. Soc.* 1892, p. 1.

♂. A beautiful grey-blue (fading to ochreous); metathorax and end of abdomen with olive-green tufts. Fore wing with a black basal patch; the broad medial band black, dark green, and grey-blue, with a cell-speck and two waved lines on it; its inner edge curved, the outer bordered with white, sinuous and produced to a point at vein 4; a pale waved submarginal, line with large patches of dark green at costa, above middle, and at outer angle. Hind wing with traces of medial line; a patch of fuscous beyond upper angle of cell, and of dark green at anal angle and middle of outer area. Underside with cell-speck; postmedial band angled at vein 4 of each wing and a less prominent curved submarginal band.

Hab. Sikhim; Khásis; Ceylon; E. Pegu. *Exp.* 26 millim.

C. *Male with a large tuft of hair on upperside of hind wing below vein 4, then a shallow fovea and a long contorted fringe at anal angle and on inner margin; veins 2 and 3 given off from a point long before the angle of cell.*

3762. **Chloroclystis trichophora,** n. sp.

♂. Pale green, suffused with pale rufous. Fore wing with indistinct blackish basal and antemedial bands with waved edges: numerous indistinct waved lines on outer half, the most prominent being a line which is oblique and white-edged from costa to vein 4, then angled and recurved. Hind wing whitish, with the tufts ochreous.

Hab. Nilgiri plateau. *Exp.* 20 millim. Type in coll. Elwes.

SECT. II. Palpi with the 2nd joint reaching slightly beyond the frons; hind wing with vein 3 from angle of cell or shortly stalked with 4.

A. (Chloroclystis). *Male without secondary sexual characters on the wings.*

3763. **Chloroclystis atroviridis,** *Warr. P. Z. S.* 1893, p. 384, pl. 31, fig. 19.

Emerald-green (fading to ochreous); abdomen with black band on 2nd segment; wings with traces of pale waved lines. Fore

wing with subbasal series of three black spots; an antemedial triangular brown patch on costa and black specks on median nervure and inner margin; a postmedial curved series of black specks and larger brown spot on costa; a submarginal waved line; large brown patches on costa at apex, on outer margin below apex, and a smaller patch at outer angle. Hind wing with indistinct dark subbasal and medial lines; the postmedial line with prominent black specks on it from vein 6 to inner margin. Underside pale, with antemedial and medial blackish lines and prominent curved postmedial band.

Hab. Sikhim; Khásis; Nágas. *Exp.* 22 millim.

3764. **Chloroclystis infrazebrina**, n. sp.

♂. Pale pinkish brown; head and terminal half of abdomen black. Fore wing with antemedial, medial, and postmedial blackish patches on costa; the antemedial line faint, the postmedial retracted at costa and produced to an angle, with a slight dark mark in it beyond cell; a waved submarginal line. Hind wing with double diffused antemedial black line; the outer area pinker, with indistinct submarginal line. Underside fuscous, with patches of white; hind wing with antemedial line, and both wings with prominent postmedial band angled beyond cell.

Hab. Nágas, 6000 feet (*Doherty*). *Exp.* 18 millim. Type in coll. Elwes.

3765. **Chloroclystis admixtaria**, *Wlk. Cat.* xxiv, p. 1243; *Hmpsn. Ill. Het.* ix, pl. 171, fig. 13; *C. & S.* no. 3785.

Rufous, with a slight olive tinge; abdomen with a black band on 2nd segment. Fore wing with indistinct waved lines on basal area and some black on base of costa; the medial area with three indistinct waved lines on it, and defined by waved lines with black suffusion beyond the inner and inside the outer line, which is sharply angled at vein 4, and has an indistinct line beyond it; outer area with more distinct olive tinge and a pale waved submarginal line. Hind wing with diffused black subbasal line; traces of a medial line; a postmedial line sharply angled at vein 4, and with diffused black and rufous inside it; the outer area with a more distinct olive tinge and a pale waved submarginal line.

Hab. Nilgiris; Ceylon. *Exp.*, ♂ 16, ♀ 20 millim.

3766. **Chloroclystis immixtaria**, *Wlk. Cat.* xxiv, p. 1244; *Hmpsn. Ill. Het.* ix, pl. 171, fig. 20; *C. & S.* no. 3787.

Uniform fuscous, with a slight rufous tinge. Fore wing with a subbasal black speck on the costa; an antemedial oblique series of three specks; a postmedial oblique line angled at vein 4. Hind wing with medial waved line excurved from veins 4 to 2; traces of a submarginal waved line. Underside whitish; the margins fuscous; both wings with postmedial black line angled at vein 4.

Hab. Ceylon. *Exp.* 18 millim.

3767. **Chloroclystis recensitaria,** *Wlk. Cat.* xxiv, p. 1244; *Hmpsn. Ill. Het.* ix, pl. 171, fig. 19; *C. & S.* no. 3788.

Rufous, suffused with fuscous. Fore wing with traces of numerous waved lines; an oblique antemedial line angled in the cell; a postmedial line with blackish suffusion inside it, angled on veins 6 and 4, then oblique; a submarginal waved grey line with black marks on it at costa, and on each side of vein 6. Hind wing with outer margin rounded; traces of waved lines; a postmedial line angled on vein 4; a waved greyish submarginal line. Underside with curved postmedial and submarginal lines.

Hind wing of male on underside clothed entirely with rough grey and black scales.

Hab. Dharmsála; Nilgiris; Ceylon. *Exp.* 16 millim.

3768. **Chloroclystis emarginaria,** *Hmpsn. Ill. Het.* ix, p. 152, pl. 171, fig. 14.

Differs from *recensitaria* in the outer margin of the hind wing being crenulate and slightly excised below apex.

The male has the upperside much darker; the underside of hind wing clothed with rough ochreous hair to the postmedial line. The Nága female has the postmedial line of fore wing bent inwards at costa.

Hab. Nágas; Nilgiris; Ceylon. *Exp.* 26 millim.

3769. **Chloroclystis rufifascia,** *Hmpsn. Ill. Het.* ix, p. 152, pl. 171, fig. 15.

Differs from *recensitaria* in being dark green. Fore wing with the rufous suffusion confined to the medial area, sometimes to its costal half; both wings with the postmedial line prominently black with white outer edge, on fore wing more evenly curved and waved; the submarginal pale waved line more prominent. The outer margin of hind wing is sometimes evenly curved, sometimes excised below apex. Underside without rough scales on hind wing of male.

Hab. Khásis; Nilgiris; Ceylon. *Exp.*, ♂ 12, ♀ 18 millim.

3770. **Chloroclystis indicata,** *Wlk. Cat.* xxxv, p. 1675.

♂. Ochreous, suffused with dark brown and rufous; wings with faint traces of waved lines; a double curved postmedial line, the area beyond it paler, with dark streaks on fore wing below costa and on each side of vein 5, and patches at outer angle of fore wing and apex of hind wing; a dentate submarginal line most prominent on hind wing.

Hab. Ceylon; Borneo. *Exp.* 18 millim.

3771. **Chloroclystis spissidentata,** *Warr. P. Z. S.* 1893, p. 383.

♂. Fuscous, thickly speckled with small ochreous white spots; wings with numerous indistinct waved lines; the postmedial line

on a whitish band with waved edges; fore wing with a black cell-speck. Underside with postmedial line produced to an angle on vein 4 of each wing.

Hab. Sikhim. *Exp.* 18 millim.

B. (Ardonis). *Male with the fore wing very broad; a round patch of differentiated black scales on underside on vein 2; hind wing with a similar patch on upperside at fork of veins* 6, 7.

3772. **Chloroclystis chlorophilata**, *Wlk. Cat.* xxvi, p. 1768; *C. & S.* no. 3784.

♂. Head, thorax, and abdomen malachite-green, with some rufous markings; abdomen with blackish band on 2nd segment and blackish dorsal tufts; wings malachite-green. Fore wing with some dark rufous at base of costa; triangular medial and smaller postmedial patches; a quadrate apical patch; a patch from end of cell to outer margin between veins 6 and 4, and crossed by the waved white submarginal line. Hind wing with the costal half nacreous white, with the black sexual mark on it; the inner area green, with the base dark, and with three indistinct waved lines. Underside pale, suffused with fuscous; three waved dark lines, obsolete on inner half of fore wing.

Hab. Sikhim; Bhután; Khási; Nilgiris. *Exp.* 26 millim.

C. *Male with the area near outer angle of fore wing on upperside thickly clothed with long rough hair-like scales; the whole of hind wing, except the costal area, clothed with similar but shorter scales.*

3773. **Chloroclystis lucinda**, *Butl. A. M. N. H.* (5) iv, p. 442; *id. Ill. Het.* ix, pl. 170, fig. 11.

♂. Pale grass-green, irrorated with black. Fore wing with traces of black subbasal and antemedial lines; the medial area largely suffused with black and edged by waved black lines, the outer line dentate at veins 6 and 4; traces of a waved submarginal line; the long hair-like scales near outer area of fore wing and on hind wing pale brownish ochreous.

♀ with the hind wing pale fuscous, with curved postmedial line.

Hab. Japan; Dharmsála; Sikhim; Nilgiris; Ceylon. *Exp.*, ♂ 18, ♀ 20 millim.

D. *Male with the costa arched at middle and fringed with rough hair varying in length in the several species.*

a. (Phrissogonus). *Hind tibiæ of male with two pairs of spurs; fore wing with the apex not produced.*

3774. **Chloroclystis modesta**, *Warr. P. Z. S.* 1893, p. 383.

♂. Fuscous, suffused with rufous on body and base of wings, which have traces of numerous waved lines. Fore wing with

highly crenulate olive-green postmedial line, sending a tooth inwards along vein 5 to the cell; a fine waved submarginal olive line. Hind wing with double postmedial and single submarginal curved and waved olive lines.

Hab. Sikhim; Burma. *Exp.* 26 millim.

b. (Calluga). *Hind tibiæ of male with terminal pair of spurs only, the outer spur nearly as long as the tarsus and dilated at extremity; fore tibia with a tuft of hair on outer side at base, then contorted and with another tuft at extremity; antennæ with the basal joint large and ending in a small process, the shaft coming off from it at an angle, thickened and fringed above with large scales; fore wing with the apex produced, the subcostal nervure bent downwards and the areole very large.*

3775. **Chloroclystis costalis**, *Moore, Lep. Ceyl.* iii, p. 480, pl. 206, fig. 1; *C. & S.* no. 3790.

Pale olive-green (changing to ochreous), suffused with rufous, and irrorated with black; wings with numerous indistinct waved white lines. Fore wing with the costal half rufous to the post-

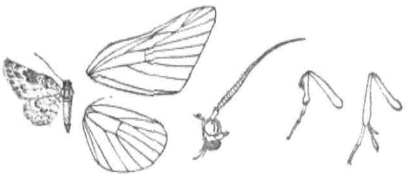

Fig. 185.—*Chloroclystis costalis*, ♂. ½.

medial line, which is oblique, black, and excurved below costa; a waved white submarginal line, with rufous and black patches inside it on costa and below apex. Hind wing with black medial line excurved below costa.

Hab. Bhután; Nágas; Ceylon; Burma. *Exp.* 18 millim.

E. (Axinoptera). *Male with a tuft of black hair on hind tibiæ just before the terminal spurs; fore wing with the costa bent upwards and highly angled close to the base, a fold on upperside from the angle of costa to near apex, containing rough rufous scales; vein 7 from the angle of cell, which is short, the posterior wall of areole being absent.*

3776. **Chloroclystis subcostalis**, *Hmpsn. Ill. Het.* ix, p. 155, pl. 171, figs. 24, 25.

Olive-brown; the palpi black; metathorax and abdomen with black markings; wings slightly irrorated with black and with traces of numerous waved lines. Fore wing with black at base of costa; a dentate black antemedial line; a prominent postmedial line angled at vein 4, and with black streaks beyond it inside the waved grey submarginal line; the subcostal fold in male bright

rufous. Hind wing suffused with rufous to the prominent curved slightly sinuous black postmedial line; a diffused waved black submarginal line with white spot beyond it at middle.

Hab. Ceylon. *Exp.* 20 millim.

Genus **EUPITHECIA**.

Eupithecia, *Curt. Brit. Ent.* vi, pl. 64 (1825).
Tephroclystia, *Hübn. Verz.* p. 323 (? 1818), non descr.
Pena, *Wlk. Cat.* xxvii, p. 130 (1863).
Eurypeplodes, *Warr. P. Z. S.* 1893, p. 382.

Type, *E. absinthiata*, Curt., from Europe.

Range. Universally distributed.

Palpi usually reaching just beyond the frontal tuft: the 2nd joint clothed with hair; antennæ of male ciliated; hind tibiæ with twó pairs of spurs; abdomen with slight dorsal crests. Fore wing with vein 3 from near angle of cell; 5 from middle of discocellulars; 6 from upper angle; 10, 11 stalked, 10 anastomosing with 7, 8, 9 to form the areole. Hind wing with vein 3 from near angle of cell; 5 from middle of discocellulars; 6, 7 stalked; 8 anastomosing with 7 to beyond middle of cell.

SECT. I. (*Eupithecia*). Palpi with the 2nd joint reaching only just beyond the frontal tuft; fore wing usually with a tuft of raised scales on discocellulars.

3777. **Eupithecia eupitheciata**, *Wlk. Cat.* xxvi, p. 1720.
Cephalissa delogramma, *Meyer, Trans. Ent. Soc.* 1886, p. 195.
Eupithecia dentifascia, *Hmpsn. Ill. Het.* viii, p. 117, pl. 152, fig. 12.

Dark red-brown, irrorated with black and suffused with fuscous. Fore wing with oblique, subbasal, and antemedial lines angled below costa; the medial area blackish, with black cell-speck and edged by oblique black lines, the outer highly dentate below veins 3 and 2; an indistinct waved postmedial line and waved grey submarginal line; patches of fuscous suffusion on margin below apex and above outer angle. Hind wing with indistinct dark antemedial, medial, postmedial, and submarginal lines, becoming obsolescent on costal area, which is pale.

Hab. Khásis; Nilgiris; Ceylon; Shán States; Australia; Fiji; Tonga. *Exp.* 20 millim.

3778. **Eupithecia lucigera**, *Butl. Ill. Het.* vii, p. 115, pl. 137, fig. 11.

♂. Black-brown; the metathorax rufous; a pure white tuft round claspers. Fore wing with a diffused pale rufous fascia from the base of inner margin to the large and prominent tuft of raised black scales on discocellulars; a large pale postmedial patch touching the costa; a white speck near outer angle. Underside of hind wing with traces of cell-speck and antemedial, postmedial, and submarginal lines.

Hab. Dharmsála. *Exp.* 20 millim.

3779. **Eupithecia subtacincta**, n. sp.
Eupithecia isogrammata, *Butl. Ill. Het.* vii, p. 23 (*nec Treit.*).
Eupithecia haworthiata, *Butl. Ill. Het.* vii, p. 24 (*nec Doubl.*).

♀. Dark fuscous; wings with faint traces of numerous waved lines; a dark cell-speck; an obscure dark curved antemedial line and grey submarginal line. Underside pale, with three dark lines on basal area, less prominent on fore wing than on hind wing: prominent postmedial and submarginal bands.

Hab. Dharmsála (*Hocking*). *Exp.* 20 millim. Type in B. M.

3780. **Eupithecia rigida**, *Swinh. Trans. Ent. Soc.* 1892, p. 2.

♂. Dark vinous red; abdomen with dorsal white specks. Fore wing with obliquely waved white and black antemedial line; a black speck at end of cell; an oblique postmedial black and white line angled below costa and reduced to small black and white lunules from below costa to above inner margin, a series of black specks beyond it; an apical blackish patch; a submarginal series of white specks, one above the outer angle being large. Hind wing fuscous, except the inner area, which is vinous red with minutely waved double white postmedial line. Underside with a patch of crimson on middle of costa of fore wing and another at anal angle of hind wing.

Hab. Khásis. *Exp.* 22 millim.

3781. **Eupithecia rajata**, *Guen. Phal.* ii, p. 328; *C. & S.* no. 3777.
Eupithecia quadripunctata, *Warr. P. Z. S.* 1888, p. 331; *C. & S.* no. 3776 A.
Eupithecia infestata, *Swinh. P. Z. S.* 1889, p. 430.

Dark fuscous. Fore wing with very numerous indistinct obliquely waved lines; a large tuft of raised black scales at end of cell; the postmedial line fairly well defined, excurved and angled at vein 6, and slightly incurved from vein 3 to inner margin; a crenulate whitish submarginal line, often with white specks on it, at veins 4 and 2. Hind wing with a speck at end of cell; traces of numerous waved lines on inner area, and a more prominent grey submarginal line.

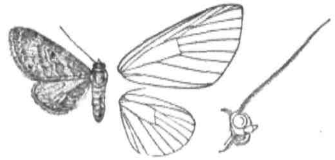

Fig. 186.
Eupithecia rajata, ♂. 1.

The submarginal line of each wing is sometimes indistinct. The species is allied to *albipunctata*, Haw.

Hab. Dharmsála; Khásis; Nágas; Mhow; Nilgiris; Ceylon. *Exp.* 20–24.

3782. **Eupithecia atrisignis**, *Butl. Ill. Het.* vii, p. 114, pl. 137, fig. 10.
Eupithecia silenata, *Butl. Ill. Het.* vii, p. 23 (*nec Standf.*).

Differs from *rajata* in being much greyer. Fore wing with a double medial line filled in with grey, angled outwards below the

a double waved postmedial line, interrupted by a ferruginous patch between veins 2 and 4; the outer area rufous except at middle. Underside pale; each wing with prominent cell-spot, postmedial line excurved beyond cell, and interrupted submarginal line.

The figure in the 'Proceedings of the Zoological Society' represents this species and not *Chloroclystis rubrinotata*.

Hab. Sikhim (*Möller*). *Exp.* 26 millim. Type in coll. Elwes.

3791. **Eupithecia lineosa**, *Moore, Lep. Atk.* p. 268; *C. & S.* no. 3774.

♀. Cinereous brown. Fore wing with the basal half browner and bounded by an oblique medial line; the outer half crossed by several oblique diffused brown lines. Hind wing with numerous indistinct diffused brown lines.

Hab. Sikhim. *Exp.* 20 millim.

3792. **Eupithecia ustata**, *Moore, Lep. Atk.* p. 268; *C. & S.* no. 3781.

♂. Head brown; thorax and abdomen whitish. Fore wing pale rufous brown, the basal half, except some costal patches, with confluent white strigæ, and bounded by an indistinct oblique medial line; a sinuous white-speckled submarginal line. Hind wing white, with traces of fuscous ante- and postmedial lines, and marginal rufous band.

Hab. Sikhim. *Exp.* 20 millim.

SECT. II. (*Pena*). Palpi with the 2nd joint reaching far beyond the frontal tuft; fore wing with no tuft of raised scales on discocellulars.

3793. **Eupithecia costalis**, *Wlk. Cat.* xxvii, p 130.
Leiocera ferrisparsata, *Hmpsn. Ill. Het.* ix, p. 152, pl. 171, fig. 8.

♀. Cinereous white; the palpi, head, collar, and fore legs bright ferruginous; abdomen with a ferruginous band on 1st segment. Fore wing with the costa ferruginous; some fuscous on subcostal nervure; a waved subbasal dark line; double dark-edged pale ante- and postmedial bands, the latter excurved beyond cell, dentate outwards on veins 6 and 4, and inwards below vein 2; two irregularly dentate medial lines; the outer area ferruginous, turning to brown at the margin; a pale waved submarginal line. Hind wing with four waved lines on basal half; a double dark-edged postmedial pale band incurved beyond cell; both wings with fine marginal line.

Hab. Nágas; Nilgiris; Ceylon; E. Pegu; Borneo. *Exp.* 22 millim.

3794. **Eupithecia irambata**, *Warr. P. Z. S.* 1893, p. 382, pl. 30, fig. 8.

Chestnut; the male darker than the female; wings with traces of numerous waved lines, most distinct on outer area of hind wing; fore wing with a pale-edged black speck at end of cell and an obscure submarginal series of white specks.

Hab. Sikhim. *Exp.* 25–30 millim.

795. **Eupithecia rubridorsata**, n. sp.

♀. Palpi black; head, thorax, and abdomen orange-red. Fore wing with the basal two-thirds dark fuscous, the outer third dark rufous; an orange-red basal patch; a black cell-spot; traces of antemedial, four medial, and a submarginal waved whitish line. Hind wing whitish; the inner and outer areas suffused with brown; numerous indistinct waved lines, of which a medial and postmedial are the most prominent.

Hab. Sikhim (*Knyvett*). *Exp.* 28 millim. Type in coll. Elwes.

3796. **Eupithecia incurvata**, *Moore, Lep. Atk.* p. 268; *C. & S.* no. 3773.

♂. Olive-brown. Fore wing with antemedial brown band with sinuous whitish edges; the broad medial area brown, defined by sinuous whitish lines, the inner angled in cell and followed by a dark brown band and a waved brown line, the outer edge angled at vein 4; a sinuous whitish submarginal line, with a brown patch on its inner edge from costa to vein 4, and a brown subapical spot beyond it. Hind wing fuscous, with traces of curved postmedial line.

Hab. Khásis. *Exp.* 22 millim.

Genus **TRICHOPTERIGIA**, nov.

Type, *T. decorata*, Moore.

Range. Himalayas; Khásis.

Palpi clothed with hair, porrect, and reaching well beyond the short frontal tuft; antennæ of male minutely ciliated; hind tibiæ with one pair of spurs, male with tuft of hair from femoro-tibial joint; abdomen reaching slightly beyond the hind wing. Fore wing with the outer margin long; vein 3 from before angle of cell; 5 from middle of discocellulars; 6 from above upper angle; 10, 11 stalked, 10 anastomosing with 8, 9 to form the areole. Hind wing of male with the inner area reduced to a small lobe at base; vein 3 from before angle of cell, 5 from above angle; the discocellulars highly angled; veins 6, 7 stalked; 8 anastomosing with the cell.

3797. **Trichopterigia decorata**, *Moore, Lep. Atk.* p. 272; *C. & S.* no. 3898.

Head, thorax, and abdomen grey and ochreous, with a few fuscous scales. Fore wing semi-hyaline grey, irrorated with olive and black scales; some black spots on costa; the base ochreous, bounded by an oblique black line; traces of a medial line and line on discocellulars; an irregularly sinuous submarginal line, with a series of crimson spots beyond it. Hind wing semi-

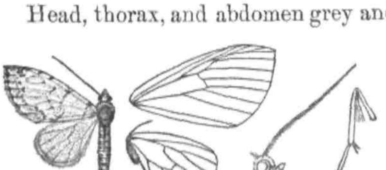

Fig. 187.—*Trichopterigia decorata*, ♂. ½.

hyaline white; both wings with the veins of outer area and the margin blackish.

Some specimens have a diffused fuscous medial band on fore wing.

Hab. Sikhim, 13,000 feet; Khásis. *Exp.* 30 millim.

3798. **Trichopterigia sanguinipunctata**, *Warr. P. Z. S.* 1893, p. 363, pl. 31, fig. 17.
Lobophora pulcherrima, *Swinh. A. M. N. H.* (6) xii, p. 224.

Differs from *decorata* in the thorax and abdomen being spotted with crimson. Fore wing with the irroration entirely olive; a few crimson spots on basal area; the medial area suffused with crimson and with numerous spots and short streaks on the veins; a series of red marginal spots.

Hab. Sikhim; Khásis. *Exp.* 30 millim.

3799. **Trichopterigia rufinotata**, *Butl. Ill. Het.* vii, p. 116, pl. 137, fig. 13.

♀. Differs from *decorata* in the fore wing being greenish grey, with numerous indistinct waved lines, some of the medial lines being fuscous and forming a band which forks towards costa: the subbasal line angled; three submarginal lines, with one red spot beyond them below costa and four at middle. Hind wing with two indistinct submarginal lines.

Hab. Kúlú. *Exp.* 40 millim.

Genus TRICHOPTERYX.

Trichopteryx, *Hübn. Verz.* p. 323 (? 1818).

Type, *T. carpinata*, Börkh., from Europe.

Range. Nearctic and Palæarctic regions; Himalayas; Khásis.

Differs from *Trichopterigia* in the fore wing having vein 10 anastomosing with 11 and then with 8, 9 to form a double areole.

SECT. I. Male with vein 8 of hind wing connected with 7 by an oblique bar at end of cell.

3800. **Trichopteryx sikkima**, *Moore, Lep. Atk.* p. 272, pl. 8, fig. 30; *C. & S.* no. 3899.
Amathia nigronotata, *Warr. P. Z. S.* 1893, p. 362, pl. 31, fig. 18.

Head, thorax, and abdomen ochreous, slightly irrorated with black. Fore wing white; male with the disk irrorated with purple scales; female with traces of numerous waved olive lines; sinuous subbasal, antemedial, medial, and postmedial lines, with olive bands on the outer edge of the first and last, and on the inner edge of the two middle lines; a submarginal series of black specks on olive spots; some black spots on vein 1 and a marginal series. Hind wing pure white.

Hab. Sikhim. *Exp.*, ♂ 28, ♀ 34 millim.

3801. **Trichopteryx macularia**, *Moore, P. Z. S.* 1867, p. 653; *C. & S.* no. 3753.
Amathia rivularis, *Warr. P. Z. S.* 1893, p. 363, pl. 31, fig. 16.

♀. Brownish ochreous; head and thorax slightly irrorated with black. Fore wing with subbasal, antemedial, medial, postmedial, and submarginal bands formed of somewhat ill-defined waved black lines interrupted below costa; the outer area suffused with olive-green, the veins being speckled with black. Hind wing whitish; both wings with marginal black line.

Hab. Sikhim, 7500 feet. *Exp.* 36 millim.

SECT. II. Male with vein 8 of hind wing anastomosing with 7 to near end of cell.

3802. **Trichopteryx viretata**, *Hübn. Samml. eur. Schmett., Geom.* fig. 230.

Head and thorax dark olive-green; palpi blackish; antennæ ringed with black; abdomen fuscous. Fore wing dark olive-green; traces of numerous waved dark lines; some fuscous suffusion in end of cell, interno-median interspace, and between veins 2 and 3 and 4 and 6; a marginal series of black specks. Hind wing fuscous.

Hab. Europe; Dharmsála; Sikhim; Khásis. *Exp.* 28 millim.

Genus **MICROLOBA**, nov.

Tyloptera, *Christ, Bull. Soc. Nat. Mosc.* lv, (2) p. 114 (1880), præocc.

Type, *M. bella*, Butl.

Range. Amur; Japan; Sikhim.

Palpi hairy and not reaching beyond the frons, which is rounded: antennæ bipectinated to three-fourths length in both sexes, the branches longer in the male than the female. Fore wing ample; vein 3 from before angle of cell; 5 from middle of discocellulars; 6 from below angle of cell; 11 anastomosing with 7, 8, 9, 10 to form a small areole. Hind wing small; male with the inner area reduced to a small hair-fringed lobe at base; vein 2 terminating on inner margin; 3 from near angle of cell running to anal angle; the discocellulars angled and vein 5 absent; 6 from far below upper angle of cell; 8 anastomosing with 7 to near end of cell; female with the inner area not aborted; vein 5 from middle of discocellulars; 6, 7 stalked.

3803. **Microloba bella**, *Butl. A. M. N. H.* (5) i, p. 448; *id. Ill. Het* iii, pl. 54, fig. 10.
Tyloptera eburneata, *Christ, Bull. Soc. Nat. Mosc.* lv, (2) p. 116.

White; the vertex of head fuscous and fulvous; the base and

extremity of abdomen fulvous. Fore wing with the medial area slightly tinged with fulvous; traces of waved ante- and postmedial lines, the latter sometimes developed into an indistinct band; reddish-brown subbasal and medial patches on costa and a small postmedia spot; a black discocellular spot; the outer area fulvous, except between veins 2 and 5, and with a waved submarginal pale line. Hind wing with a black speck at lower angle of cell; an indistinct waved medial line and submarginal series of lunules; a more or less complete marginal fulvous band, sometimes reduced to a spot at anal angle.

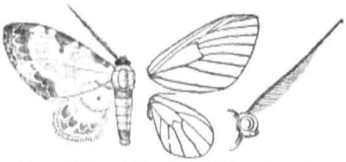

Fig. 188.—*Microloba bella*, ♂. ¾.

Hab. Amur; Japan; Sikhim. *Exp.*, ♂ 36, ♀ 41 millim.

Genus BRABIRA.

Brabira, *Moore, Lep. Atk.* p. 271 (1888).

Type, *B. atkinsoni*, Moore.

Range. Askold Island, Siberia; Sikhim.

Palpi clothed with hair and reaching well beyond the frons; antennæ of male bipectinated to three-fourths length; hind tibiæ with two pairs of spurs. Fore wing ample; the outer margin oblique; vein 2 much curved; 3 from before angle of cell; 5 from above middle of discocellulars; 6 from upper angle; 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing small; male with a large fold at base; the outer margin produced to an acute point at vein 5; veins 2, 3 close together from before angle of cell; 4, 5 from the angle, then separating widely; 6, 7 absent; 8 bent down and touching the extremity of the cell; female with the margin produced to points at veins 3 and 7; veins 3, 4 from angle of cell; 5 from middle of discocellulars; 6 absent.

3804. **Brabira atkinsoni**, *Moore, Lep. Atk.* p. 271; *C. & S.* no. 3803.

Brownish ochreous. Fore wing with indistinct waved double subbasal, ante- and postmedial lines, with fuscous patches on them at costa, the last line oblique; a black spot at end of cell; a pale waved submarginal line.

Hab. Sikhim. *Exp.* 30 millim.

3805. **Brabira artemidora**, *Oberth. Et. Ent.* x, p. 33, pl. 1, fig. 6.
Brabira pallida, *Moore, Lep. Atk.* p. 271, pl. 8, fig. 12; *C. & S.* no. 3804.

♂. Greyish white, slightly suffused with brown; the antennæ

blackish. Fore wing with five black triangular spots on the costa; indistinct double waved ante- and postmedial lines filled in with white; a black spot at end of cell; a waved white sub-

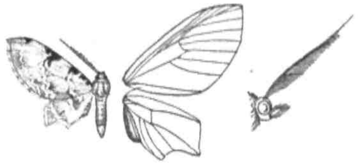

Fig. 189.—*Brabira artemidora*, ♂. ½.

marginal line. Hind wing with broad diffused fuscous antemedial band and paler narrow postmedial submarginal and marginal bands.

Hab. Askold; Sikhim. *Exp.* 30 millim.

Genus PHTHONOLOBA.

Phthonoloba, *Warr. Nov. Zool.* p. 397 (1894).

Type, *P. decussata*, Moore.

Range. Sikhim; Khásis; Nilgiris; Travancore.

Palpi porrect, about twice the length of head, the 2nd joint fringed above with hair; frons rounded; antennæ of male thickened and flattened; hind tibiæ with one pair of spurs; male with a tuft of hair from the femoro-tibial joint; abdomen very long. Fore wing very ample; vein 3 from before angle of cell; 5 from middle of discocellulars; 6 from above angle; 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing with vein 3 from before angle of cell; 5 from middle of discocellulars; 7 from before upper angle; 8 anastomosing with 7 to middle of cell.

3806. **Phthonoloba decussata,** *Moore, P. Z. S.* 1867, p. 655, pl. 33, fig. 10; *C. & S.* no. 3793.

Head and thorax bright green, marked with black; palpi black at tips; antennæ ringed with black; abdomen fuscous, with some green at base and extremity. Fore wing bright green, with numerous waved black lines connected in places by black patches, which form ill-defined ante- and postmedial bands; two submarginal streaks and some patches on the sub-

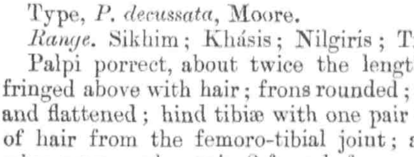

Fig. 190.—*Phthonoloba decussata*, ♂. ½.

marginal line. Hind wing fuscous, with traces of postmedial line.

Hab. Sikhim; Khásis; Nilgiris; Travancore. *Exp.*, ♂ 34, ♀ 40 millim.

Genus SAURIS.

Sauris, *Guen. Phal.* ii, p. 361 (1857).
Remodes, *Guen. Phal.* ii, p. 362.
Holorista, *Warr. Nov. Zool.* p. 397 (1894).

Type, *S. hirudinata*, Guen.

Range. S. Africa; throughout India, Ceylon, and Burma; the Malayan subregion and Australian region.

Palpi porrect, usually about three times the length of head, the 2nd joint fringed with hair above; antennæ of male very much thickened and flattened; hind tibiæ of male without spurs, of female with one pair; abdomen very long. Fore wing very ample; vein 3 from before angle of cell; 5 from middle of discocellulars; 6 from upper angle; 10, 11 stalked, 10 anastomosing with 8, 9 to form the areole. Hind wing of female with vein 2 from near angle of cell; 3, 4 stalked or from angle; 5 from middle of discocellulars; 6, 7 stalked; 8 anastomosing with 7 to near angle of cell.

SECT. I. Fore wing of male with no distortion at outer angle hind wing with no distortion of outer area; hind tibiæ not distorted.

A. *Palpi about twice the length of head and curved obliquely forward; hind wing with no lobe at base and vein 3 present.*

3807. **Sauris normis**, n. sp.

♂. Pale yellowish green. Fore wing with traces of numerous waved lines; a medial slightly darker area widening to costa followed by a pale postmedial band, then a slightly darker band; an indistinct submarginal line and marginal series of specks. Hind wing very pale fuscous.

Hab. Sikhim (*Dudgeon*). *Exp.* 80 millim. Type in B. M.

B. *Palpi about three times the length of head and straight; hind wing of male with a vesicular lobe at base and vein 3 absent.*

3808. **Sauris abnormis**, *Moore, Lep. Atk.* p. 271, pl. 8, fig. 11; *C. & S.* no. 3792.
Remodes melanocera, *Hmpsn. Ill. Het.* viii, p. 119, pl. 152 fig. 10.

♂. Differs from *hirudinata* in being paler green, irrorated with silvery scales; fore wing with the purplish lines of disk obsolescent; the outer area purplish, narrowing towards apex and with a pale waved submarginal line on it.

The Khási form is bright pale green, with the marginal dark

area very prominent; the Nilgiri *melanocera* is olive, with the marginal band obscure.

Hab. Khásis; Nilgiris; Burma. *Exp.* 28 millim.

3809. **Sauris postalba,** n. sp.

♂. Differs from *hirudinata* in the head, thorax, and abdomen being banded by fine white lines; fore wing with the ground-colour of the greater part of the medial and outer areas white; the postmedial dark lines angled beyond the cell. Hind wing nearly pure white.

Hab. Bombay. *Exp.* 20 millim. Type in B. M.

SECT. II. Fore wing of male with an incision fringed with hair in outer margin above outer angle; hind wing with the basal lobe forming a very large vesicle covered by a bilobed membranous lid; the outer margin slightly distorted, produced above vein 6 but not lobed; veins 3 and 5 absent; 8 anastomosing with 7 to far beyond end of cell; hind tibiæ much bent towards extremity, and with a slight tuft of hair.

3810. **Sauris ignobilis,** *Butl. A. M. N. H.* (5) vi, p. 227; *id. Ill. Het.* vi, pl. 120, fig. 3; *C. & S.* no. 3796.

♂. Head, thorax, and fore wing grey, with ferruginous markings; the last with broad ill-defined ante- and postmedial bands formed of numerous waved rufous and dark lines, the postmedial band angled at vein 5; an oblique striga on discocellulars; a lunulate

Fig. 191.—*Sauris ignobilis*, ♂. $\frac{1}{1}$.

ferruginous submarginal band not extending to costa, so that a pale apical patch is formed; a waved black line close to the margin; a marginal series of black spots. Abdomen and hind wing ochreous brown.

Hab. Sikhim; Nilgiris. *Exp.* 38 millim.

SECT. III. Hind wing of male very much distorted, the inner area reduced to a large vesicle covered by a bilobed membranous lid with a tuft of hair from it; the outer margin with two incisions, so that three lobes are formed, the middle one being largest and forming a vesicle covered with dark hair on underside; veins 2 and 3 stalked and much curved; 4 and 5 from end of cell and much curved, 4 being obsolescent; 6, 7 stalked

and bent down to the middle lobe; 8 becoming coincident with 7 from end of cell to margin; hind tibiæ of male much curved towards extremity; the first joint of tarsus swollen and curved.

A. *Fore wing of male with no distortion at outer angle; hind tibiæ without tufts of hair at extremity.*

3811. **Sauris olivacea,** *Warr. P. Z. S.* 1893, p. 363, pl. 31, fig. 20.

Differs from *hirudinata* in having no purplish suffusion on fore wing below and beyond the cell; two dark submarginal patches.

In the female in some specimens an antemedial band, a medial band near inner margin, and a broad postmedial band are developed into prominent black bands.

Hab. Hongkong; Sikhim; E. Pegu. *Exp.*, ♂ 30, ♀ 34–38 millim.

B. *Fore wing of male with the outer angle distorted and clothed with curved hair on underside; hind tibiæ with a tuft of long hair from extremity; paired lateral tufts from base of abdomen.*

3812. **Sauris hirudinata,** *Guen. Phal.* ii, p. 362; *C. & S.* no. 3795.
Sauris remodesaria, *Wlk. Cat.* xxiv, p. 1253; *Moore, Lep. Ceyl.* iii, pl. 207, figs. 3, 5, 2; *C. & S.* no. 3801.
Remodes interruptata, *Moore, Lep. Atk.* p. 270; *C. & S.* no. 3797.
Remodes triseriata, *Moore, Lep. Ceyl.* iii, p. 485, pl. 207, figs. 1, 4; *C. & S.* no. 3802.
Remodes elaica, *Meyr. Trans. Ent. Soc.* 1886, p. 193.
Remodes cinerosa, *Warr. Nov. Zool.* p. 397.

Head and thorax olive-green, with slight dark markings; antennæ black. Fore wing olive-green, irrorated with silvery scales; numerous indistinct waved green lines, one subbasal line, two antemedial, three postmedial, and one submarginal being purplish fuscous; some purplish suffusion in interno-median interspace and beyond cell; a speck at end of cell; the margin purplish, with a series of black spots. Abdomen and hind wing fuscous.

In the female form *interruptata*=*triseriata* the purplish-fuscous suffusion on fore wing takes the form of two streaks beyond the cell, and a fascia in the interno-median interspace.

Hab. S. Africa; Sikhim; Khásis; Nilgiris; Ceylon; Burma; Sumatra; Java; Australia; Fiji. *Exp.*, ♂ 28, ♀ 28–38 millim.

3813. **Sauris lineosa,** *Moore, Lep. Atk.* p. 270, pl. 8, fig. 10; *C. & S.* no. 3798.
Remodes fasciata, *Moore, Lep. Atk.* p. 270; *C. & S.* no. 3794.

Differs from *hirudinata* in being yellower green; the waved green lines fewer and more distinct; a prominent medial dark band formed from the dark waved lines from vein 5 to inner margin; a dark lunulate marginal band. Hind wing dark fuscous.

Hab. Sikhim; Khásis; Ceylon; Sumatra. *Exp.* 32 millim.

3814. **Sauris perfasciata**, n. sp.

♀. Differs from *lineosa* in the waved lines of fore wing being replaced by green bands, two antemedial bands, two medial lines with a band between them, and two postmedial lines with two bands between them being purplish fuscous and prominent, extending from subcostal nervure to vein 1, and the ground-colour between them being whitish; two dark submarginal spots above middle; the lunulate marginal band prominent.

Hab. Ceylon. *Exp*. 34 millim. Type in B. M.

3815. **Sauris proboscidaria**, *Wlk. Cat.* xxiv, p. 1252; *C. & S.* no. 3800.

♀. Differs from *hirudinata* in being darker and yellower olive. Fore wing with the subbasal line further from the base and prominently black; one antemedial line, which is black and angled below costa and above vein 1; the three postmedial lines black and irregularly dentate; two submarginal lines and an irregularly waved marginal line. Hind wing dark fuscous.

Hab. Nilgiris; Ceylon. *Exp*. 34 millim.

C. *Fore wing of male with a deep incision fringed with long hair above outer angle; hind tibiæ with a very large tuft of black hair from middle; the tuft from extremity slight.*

3816. **Sauris nigripalpata**, *Wlk. Cat.* xxiv, p. 1252; *Hmpsn. Ill. Het.* ix, pl. 171, fig. 1; *C. & S.* no. 3799.

♂. Olive-brown; palpi and antennæ black. Fore wing irrorated with silvery scales; irregularly waved double subbasal and antemedial black lines connected by streaks; an oblique striga on discocellulars; four curved and dentate postmedial black lines, the outermost sending streaks along veins 4 and 5 to the submarginal black line, which is curved from the costa to vein 4, then obsolescent and waved; five prominent marginal black spots from apex to vein 4. Hind wing pale.

♀ with broad ante- and postmedial bands formed by black suffusion between the lines; the submarginal line and marginal spots less prominent on apical half of wing. Hind wing darker.

Hab. Ceylon. *Exp*. 34 millim.

D. *Fore wing of male very ample; a deep incision fringed with hair above outer angle, which is distorted and clothed with curved dark hair on underside; hind wing with the basal vesicle large; the apical part of costa fringed with very long cilia; mid tibiæ fringed on inner side with very long hair; hind tibiæ with tufts of very long black hair from distal half, the tarsus clothed with long hair; abdomen with paired lateral tufts from base.*

3817. **Sauris mirabilis**, n. sp.

♂. Differs from *hirudinata* in the postmedial dark line of fore

wing being reduced to patches below costa, beyond lower angle of cell, and above inner margin, the submarginal dark markings to a streak below costa and two at middle.

Hab. E. Pegu (*Doherty*). *Exp.* 40 millim. Type in coll. Elwes.

Genus HYDRELIA.

Hydrelia, *Hübn. Verz.* p. 322 (? 1818).
Agnibesa, *Moore, Lep. Atk.* p. 256 (1888).
Autallacta, *Warr. P. Z. S.* 1893, p. 365.

Type, *H. sylvata*, Schiff., from Europe.

Range. Nearctic and Palæarctic regions; Northern Punjab; Himalayas; Khásis; Nágas.

Palpi slight and hardly reaching beyond the frons, which is rounded; antennæ of male ciliated; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from near angle of cell; 5 from middle of discocellulars; 6 from or from above upper angle; 11 anastomosing with 7, 8, 9, 10 to form the areole. Hind wing with vein 3 from near angle of cell; 5 from middle of discocellulars; 6, 7 stalked; 8 anastomosing with 7 to near end of cell.

SECT. I. (*Hydrelia*). Both wings with the outer margin evenly rounded.

A. *Hind wing of male not distorted nor clothed with long scales on underside.*

3818. **Hydrelia phasma**, *Butl. A. M. N. H.* (5) iv, p. 441.
Acidalia latsaria, *Oberth. Et. Ent.* xviii, p. 32, pl. iii, fig. 35.

Purplish grey, irrorated with fuscous; the frons dark chocolate. Fore wing with indistinct waved subbasal line; three waved antemedial lines, which almost meet on inner margin, the outermost with some ferruginous on it; a black cell-speck; three waved postmedial lines, the middle one with some ferruginous on it; a waved submarginal line. Hind wing with seven indistinct waved lines, the basal area without lines; both wings with marginal series of black strigæ.

Hab. Japan; Tibet; Sikhim. *Exp.* 24 millim.

3819. **Hydrelia rufigrisea**, *Warr. P. Z. S.* 1893, p. 364, pl. 32, fig. 6.

♂. Pale brownish ochreous. Fore wing with traces of several waved lines on the basal area, which is suffused with fuscous: an oblique ochreous medial band, with a black cell-speck and black streak on median nervure between veins 3 and 4; an oblique rufous postmedial line becoming medial on hind wing, the area beyond it suffused with fuscous and with four waved lines; a marginal series of black specks.

Hab. Sikhim. *Exp.* 30 millim.

3820. **Hydrelia purpuraria**, n. sp.

♂. Deep purplish red. Fore wing with traces of brighter red antemedial band, and both wings with traces of similar postmedial band. Underside pale. Hind wing with cell-speck, a medial line, and traces of a postmedial.

Hab. Nágas, 6000 feet (*Doherty*). *Exp.* 20 millim. Type in coll. Elwes.

3821. **Hydrelia ochracea**, *Warr. P. Z. S.* 1888, p. 321; *id. P. Z. S.* 1893, p. 364, pl. 32, fig. 10; *C. & S.* no. 3983 A.

Fulvous yellow. Fore wing with indistinct waved subbasal and medial white lines; a postmedial line excurved beyond the cell; a submarginal sinuous maculate line. Hind wing with four indistinct sinuous lines.

In the Khási male the postmedial line is double on the fore wing, broad on hind wing.

Hab. Campbellpur; Khásis, 6000 feet. *Exp.* 20 millim.

3822. **Hydrelia marginipunctata**, *Warr. P. Z. S.* 1893, p. 364, pl. 32, fig. 5.

♂. Bright orange-yellow, slightly irrorated with rufous. Fore wing with seven black spots on costa, and faint traces of antemedial, medial, and postmedial series of specks; both wings with a marginal series.

Hab. Sikhim, 10,000 feet. *Exp.* 28 millim.

3823. **Hydrelia flavilinea**, *Warr. P. Z. S.* 1893, p. 363.

♂. Yellow, irrorated with orange and a few fuscous scales; each wing with black cell-speck and five indistinct waved orange lines on outer area.

Hab. Sikhim, 10,000 feet. *Exp.* 28 millim.

3824. **Hydrelia bicolorata**, *Moore, P. Z. S.* 1867, p. 642; *C. & S.* no. 3972.

Eupithecia ferruginaria, *Moore, P. Z. S.* 1867, p. 654; *C. & S.* no. 3771.

Hydria undulosata, *Moore, Lep. Atk.* p. 251; *C. & S.* no. 3981.

Rufous, slightly irrorated with black; the head, thorax, basal segment of abdomen, and base of fore wing black. Fore wing with subbasal, antemedial, postmedial, and submarginal waved yellow scarlet-edged lines, the postmedial line angled on vein 4; a blackish medial patch from costa to median nervure. Hind wing with postmedial and indistinct submarginal similar lines; both wings with marginal series of black specks.

The form *undulosata* is orange-red, with numerous waved lines or series of black specks, the medial area of fore wing often being suffused with fuscous.

Hab. Dharmsála; Sikhim; Khásis; Nágas. *Exp.* 22 millim.

B. *Hind wing of male very much distorted and curled up; the underside thickly clothed with long rough scales.*

3825. **Hydrelia distorta,** n. sp.

♂. Rufous, irrorated with fuscous. Fore wing with traces of antemedial line; a speck at end of cell; a nearly straight oblique postmedial line, with traces of a chestnut line beyond it and a dark patch between veins 3 and 4; submarginal and marginal series of black specks. Hind wing with indistinct medial line and submarginal and marginal series of black specks; coarse red hair below the cell and on vein 4, and a fuscous patch on outer area below vein 2.

Hab. Nágas, 3000 feet (*Doherty*). *Exp.* 26 millim. Type in coll. Elwes.

SECT. II. (*Autallacta*). Fore wing with the outer margin slightly angled at vein 4; hind wing with it more prominently angled.

3826. **Hydrelia subobliquaria,** *Moore, P. Z. S.* 1867, p. 644; *C. & S.* no. 3994.

Noreia sericea, *Butl. A. M. N. H.* (5) vi, p. 225; *id. Ill. Het.* vi, pl. 119, fig. 8; *C. & S.* no. 3233.

♂. Violaceous pinkish grey; frons rufous. Fore wing with three orange antemedial lines angled on subcostal and median nervures; a speck at end of cell; an oblique postmedial band from costa of fore wing before apex to middle of inner margin of hind wing, and with fuscous turning to rufous and then orange on its outer edge; a waved submarginal orange line angled below vein 4 of hind wing; a marginal series of black specks. Underside pale.

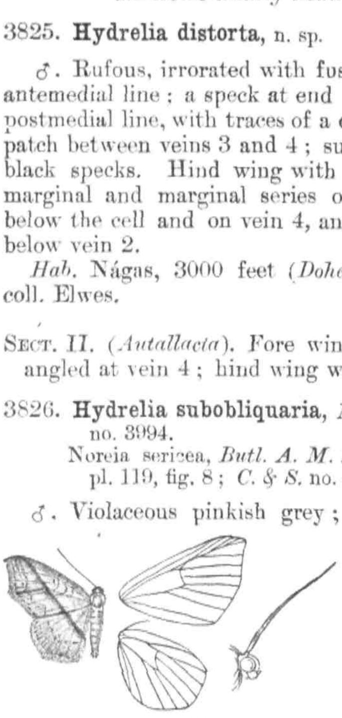

Fig. 192.
Hydrelia subobliquaria, ♂. ½.

♀. Dark rufous brown, suffused with fuscous; the lines and band dark rufous, the band less oblique on fore wing.

Hab. Sikhim. *Exp.* 34 millim.

3827. **Hydrelia rhodoptera,** n. sp.

Pink, slightly suffused with grey and fuscous. Fore wing with black cell-speck and traces of antemedial, medial, postmedial, and submarginal pink lines most prominent at costa. Hind wing with traces of medial line and two postmedial series of specks.

Hab. Sikhim (*Elwes*). *Exp.* 32 millim. Type in coll. Elwes.

3828. **Hydrelia lineata,** *Warr. P. Z. S.* 1893, p. 365.

♂. Yellowish white, irrorated with rufous. Fore wing with subbasal and two antemedial slightly curved orange lines; both

wings with a straight oblique medial orange line; outer area with three waved orange lines, and the veins streaked with orange.

Hab. Sikhim. *Exp.* 28 millim.

SECT. III. (*Agnibesa*). Fore wing with the outer margin rounded; hind wing with it strongly crenulate.

3829. **Hydrelia plumbeolineata**, n. sp.

Head and thorax olive-brown; antennæ ringed with white; abdomen white. Fore wing white, with large olive-brown patch on basal half of costa, crossed by five ill-defined bands of silvery scales; a postmedial brown band, fulvous on the inner side, and with a sinuous silvery line on it; three diffused sinuous fuscous lines on outer area. Hind wing white, with two medial, one postmedial, and a submarginal pale fuscous sinuous band.

Hab. Sikhim. *Exp.* 40 millim. Type in B. M.

3830. **Hydrelia pictaria**, *Moore, P. Z. S.* 1867, p. 645; *C. & S.* no. 3999.

♂. Differs from *plumbeolineata* in the fore wing being suffused with pale lemon-yellow; the olive-brown patch only extending to middle of cell; a black speck at end of cell, and indistinct curved olive-brown medial band; a large white patch on the postmedial band at veins 3, 4, forming an ocellate mark; a single submarginal line modified into three black lunules towards costa.

Hab. Sikhim. *Exp.* 32 millim.

3831. **Hydrelia recurvilineata**, *Moore, Lep. Atk.* p. 256; *C. & S.* no. 4000.

Pure silvery white. Fore wing with sinuous curved subbasal black line; two highly curved antemedial lines; a speck at end of cell; a medial line excurved, and with an orange patch on it beyond cell; two sinuous postmedial lines, the inner from costa to vein 3 orange, the outer orange with black spots; a maculate black submarginal line slightly angled and double near apex. Hind wing with black speck at end of cell; fuscous medial, postmedial, and submarginal sinuous bands.

Hab. Sikhim. *Exp.* 36 millim.

Genus **VENUSIA**.

Venusia, *Curtis, Brit. Ent.* vi, pl. 759 (1839).

Type, *V. cambrica*, Curtis, from the United States and Europe.

Range. Nearctic and Palæarctic regions; Himalayas.

Palpi slight, fringed with hair below and hardly reaching beyond the frons, which is rounded; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from before angle of cell; 5 from above middle of discocellulars; 6 from well above upper angle; 11 anastomosing with 7, 8, 9, 10 to form the areole. Hind wing with vein 3 from before angle of cell; 5 from below middle of disco-

cellulars, which are angled; 6, 7 stalked; 8 anastomosing with to near end of cell.

In the typical section the antennæ of male are bipectinated wit short branches.

SECT. II. Antennæ of male minutely serrate and fasciculate.

3832. **Venusia sikkimensis**, *Elwes, P. Z. S.* 1893, p. 365.

Pinkish grey: abdomen with some fuscous on basal segment Fore wing with a curved subbasal line; four slightly waved line on antemedial area, which i pinkish; a speck at end of cell a postmedial sinuous series o specks; the outer area pink with five sinuous lines on it and some fuscous on veins 3 and 4; a marginal series of dark specks. Hind wing white, with speck at end of cell; a media line, and three waved lines on outer area, often almost obsolete a marginal series of specks. Underside whitish; both wings witl cell-speck; postmedial line and two indistinct lines on outer area.

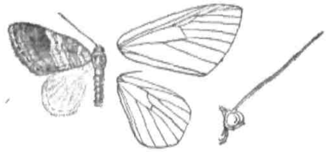

Fig. 193.
Venusia sikkimensis, ♂. ½.

Hab. Sikhim, 10,000 feet. *Exp.* 54 millim.

3833. **Venusia lilacina**, *Warr. P. Z. S.* 1893, p. 364, pl. 32, fig. 4.

Differs from *sikkimensis* in having no pink suffusion on antemedial and outer areas of fore wing; the subbasal and four antemedial lines less prominent; the cell-speck almost obsolete; the 1st postmedial line prominent from costa to vein 4, where it is angled, and has slight orange suffusion beyond it; the other three lines of outer area obsolescent and waved. Abdomen with no fuscous at base.

Hab. Sikhim, 10,000 feet. *Exp.* 30 millim.

3834. **Venusia obliquisigna**, *Moore, Lep. Atk.* p. 278; *C. & S.* no. 3863.

♂. Greyish white, slightly irrorated with fuscous; the frons rufous. Fore wing with waved subbasal line, followed by three less distinct lines; a double waved antemedial line, the outer line black, with a prominent oblique black line on it from costa to lower angle of cell, and sending a tooth in interno-median interspace to the 3rd and most prominent of the four waved postmedial lines, which are produced to angles below veins 3 and 4, this 3rd line being prominently black from costa to vein 3, and with a large bright chestnut patch beyond its costal half extending almost to the outer margin; three waved submarginal lines bent out almost to the margin between veins 2 and 4. Hind wing whiter, with indistinct waved postmedial line and three submarginal lines.

Hab. Sikhim. *Exp.* 26 millim.

3835. **Venusia dharmsalæ**, *Butl. P. Z. S.* 1883, p. 169; *C. & S.* no. 3551.

Rufous, irrorated with fuscous; frons chestnut. Fore wing with about six indistinct fuscous lines more or less reduced to specks; indistinct ante- and postmedial narrow ferruginous bands Hind wing with traces of three fuscous lines and a narrow medial ferruginous band.

Hab. Kulu; Dharmsála. *Exp.* 30 millim.

Genus **ASTHENA.**

Asthena, *Hübn. Verz.* p. 310 (? 1818).
Pseudostegania, *Butl. Trans. Ent. Soc.* 1881, p. 416.
Laciniodes, *Warr. Nov. Zool.* p. 393 (1894).
Laciniodes, *Swinh. Trans. Ent. Soc.* 1894, p. 188.

Type, *A. candidata*, Schiff., from Europe.

Range. Nearctic and Palæarctic regions; Japan; Himalayas.

Palpi clothed with scales and reaching just beyond the frons, which is rounded; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from near angle of cell; 5 from middle of discocellulars; 6 from upper angle; 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing with vein 3 from near angle of cell; 5 from above middle of discocellulars, which are oblique; 6, 7 stalked; 8 anastomosing with 7 to just beyond middle of cell.

In the typical section the antennæ of male are serrate and fasciculated.

SECT. II. (*Laciniodes*). Antennæ of male thickened and ciliated.

3836. **Asthena plurilinearia**, *Moore, P. Z. S.* 1867, p. 645; *C. & S.* no. 3996.
Acidalia unistirpis, *Butl. Ill. Het.* ii, p. 51, pl. 37, fig. 7.

Ochreous; the palpi, frons, vertex of head, and collar banded with black. Fore wing with numerous waved dark lines; a dark patch on base of costa; a curved subbasal line; an antemedial line angled below costa; a black spot at end of cell; a postmedial line angled on vein 4; two of the waved lines on outer area prominent, with a series of white spots beyond them, those between the costa and vein 4 being on a dark patch; a marginal dark line. Hind wing with waved lines; a subbasal straight line; cell-speck; medial line excurved at lower angle of cell; two waved postmedial lines with series of white spots beyond them; a dark marginal line.

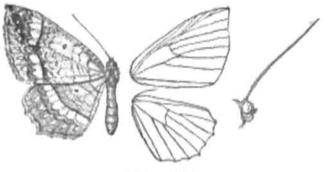

Fig. 194.
Asthena plurilinearia, ♂. ½.

Hab. Japan; N.W. Himalayas; Sikhim; Khásis. *Exp.*, ♂ 34, ♀ 40 millim.

3837. **Asthena albosignata**, *Moore, Lep. Atk.* p. 253; *C. & S.* no. 3918.

♂. Very pale red-brown. Fore wing with very numerous indistinct dark waved lines which form dark specks on the veins and leave a whitish space at lower angle of cell; antemedial, postmedial, and submarginal indistinct chestnut lines. Hind wing with the ground-colour whiter; two indistinct antemedial lines; two more prominent medial lines and two submarginal, which form dark spots on the veins and have some chestnut on them.

Hab. Sikhim. *Exp.* 30 millim.

Genus POLYNESIA.

Polynesia, *Warr., Swinh. Trans. Ent. Soc.* 1892, p. 4.
Placotome, *Warr. Nov. Zool.* p. 395 (1894).

Type, *P. sunandava*, Wlk.

Range. Sikhim; Khásis; Travancore; Ceylon; Andamans.

Palpi slender, obliquely upturned, and reaching vertex of head; antennæ of male minutely ciliated; hind tibiæ of male with a terminal pair of small spurs; female with two pairs of spurs. Fore wing with vein 3 from close to angle of cell; 6 from or from above angle of cell; 7, 8, 9, 10, 11 stalked from upper angle, or with a minute areole at their base. Hind wing with the outer margin produced to points at veins 7 and 4; the cell very short; veins 3, 4 and 6, 7 on long stalks; 5 from above middle of discocellulars; 8 from close to end of cell, then much curved.

SECT. I. (*Polynesia*). Fore wing with the apex not truncate.

3838. **Polynesia sunandava**, *Wlk. Cat.* xxii, p. 657; *Moore, Lep. Ceyl.* iii, pl. 200, fig. 4; *C. & S.* no. 3985.
Cambogia æriferata, *Wlk. Cat.* xxvi, p. 1588.

Bright yellow; the head marked with rufous; shaft of antennæ white; tegulæ with rufous patches irrorated with silvery scales; wings with rufous-edged silver spots in very ill-defined series, those below the costa of fore wing forming a very ill-defined fascia.

Fig. 195.
Polynesia sunandava, ♂. ½.

Hab. Sikhim; Travancore; Ceylon; Andamans. *Exp.* 26 millim.

SECT. II. (*Placotome*). Fore wing with the apex truncate, a large portion being cut off; a small tuft from the costa, where the truncation begins.

3839. **Polynesia truncapex**, *Swinh. Trans. Ent. Soc.* 1892, p. 5.

Differs from *sunandava* in being rather paler yellow; the spots rather darker and more scattered.

Hab. Sikhim; Khásis. *Exp.* 32 millim.

Genus **CAMBOGIA.**

Cambogia, *Guen. Phal.* i, p. 431 (1857).
Pseudasthena, *Moore, Lep. Ceyl.* iii, p. 450 (1887).
Bardanes, *Moore, Lep. Atk.* p. 251 (1888).
Anthyria, *Warr., Swinh. Trans. Ent. Soc.* 1892, p. 2.
Psilocambogia, *Hmpsn. Ill. Het.* ix, p. 151 (1893).
Chalyboclydon, *Warr. P. Z. S.* 1893, p. 366.
Acolutha, *Warr. Nov. Zool.* p. 393 (1894).

Type, *C. heliodaria*, Guen., from S. America.

Range. S. America; throughout India, Ceylon, and Burma.

Differs from *Polynesia* in the palpi being short and porrect; hind tibiæ of male with two pairs of spurs; hind wing with the outer margin usually rounded; veins 3, 4 and 6, 7 from angles of cell or shortly stalked.

SECT. I. (*Psilocambogia*). Antennæ of male ciliated.

A. *Hind wing with veins 3 and 4 stalked.*

3840. **Cambogia dissimilis,** *Moore, Lep. Ceyl.* iii, p. 450, pl. 199, fig. 7; *C. & S.* no. 3967.

Differs from *Polynesia sunandava* in there being hardly any trace of silver except on the subcostal fascia of fore wing; the rufous spots replaced by ill-defined antemedial, postmedial, and submarginal lines and a few scattered specks.

Hab. Ceylon. *Exp.* 20 millim.

B. *Hind wing with veins 3 and 4 from angle of cell.*

3841. **Cambogia memorata,** *Wlk. Cat.* xxii, p. 657; *Moore, Lep. Ceyl.* iii, pl. 199, fig. 8; *C. & S.* no. 3970.
Anisodes rapistriaria, *Swinh. Trans. Ent. Soc.* 1890, p. 210, pl. 7, fig. 9.

Bright yellow; the frons chestnut; head, thorax, and abdomen spotted with crimson; wings with a speck at end of cell, and about eleven waved lines composed of minute crimson lunules.

Some specimens have three of the medial lines of each wing dark and two dark submarginal marks on fore wing.

Hab. Sikhim; Khásis; Nágas; Ceylon; Moulmein; Rangoon; Borneo. *Exp.* 22 millim.

3842. **Cambogia pluristrigata,** *Moore, P. Z. S.* 1867, p. 643; *C. & S* no. 3979.

Cinnamon-brown, with bright yellow markings. Fore wing with subbasal yellow line; ante- and postmedial narrow bands, with two waved lines and some specks between them, and traces of two waved lines between the former and the subbasal line; traces of a

waved submarginal line. Hind wing with three irregular lines on basal area; a narrow oblique antemedial band with a series of specks beyond it; a curved sinuous submarginal line; cilia of both wings yellow, with brown patches.

Hab. Sikhim. *Exp.* 22 millim.

3843. **Cambogia marginata,** *Warr. P. Z. S.* 1893, p. 366.

♂. Head and thorax dark brown; a white band on vertex of head and base of shaft of antennæ; abdomen and wings pale rufous. Fore wing with the costa dark brown, suffused with leaden grey, and extending into the base of the cell; a sinuous grey medial line with brown suffusion on each side of it; a brown band across apex; the margin brown, with some grey suffusion on it. Hind wing with traces of three waved lines on medial area; the margin dark brown, suffused with leaden grey.

Hab. Sikhim; Momeit, Burma. *Exp.* 26 millim.

SECT. II. (*Acolutha*). Antennæ of male with fascicles of long cilia; hind wing with the outer margin produced to points at the veins; veins 3, 4 stalked.

3844. **Cambogia pulchella,** *Hmpsn. Ill. Het.* viii, p. 124, pl. 153, fig. 22.

Head and collar rufous; thorax and abdomen purplish grey. Fore wing with the basal two-thirds rufous on costal area, semi-hyaline yellow on inner area, and covered by traces of some five fuscous bands; a black spot at end of cell; a double dark post-medial line angled below costa, where there is some white on and beyond it, the area beyond it purplish grey, rufous at apex, and with traces of a submarginal line. Hind wing purplish grey, with traces of some five darker bands; a black speck at end of cell and yellow antemedial line.

The Sikhim specimen has the inner basal area of fore wing yellow.

Hab. Sikhim; Khásis; Nilgiris. *Exp.* 26 millim.

3845. **Cambogia pictaria,** *Moore, Lep. Atk.* p. 267; *C. & S.* no. 3791.

White. Fore wing with rufous suffusion on the costal half and bright yellow on the inner half; crossed by five waved rufous lines, which become bright yellow between vein 1 and the cell and vein 4; a black speck at end of cell; a waved line close to the margin. Hind wing with five pale yellowish waved lines; a black speck at end of cell.

The Ceylon form has the hind wing suffused with yellow.

Hab. Sikhim; Khásis; Ceylon. *Exp.* 26 millim.

SECT. III. (*Bardanes*). Antennæ of male serrate. Fore wing with a large costal fold on upperside for three-fourths its length, ending in a rounded knob, the subcostal neuration being somewhat distorted; hind wing with the outer margin rounded; veins 3, 4 and 6, 7 stalked.

3846. **Cambogia plicata,** *Moore, Lep. Atk.* p. 251, pl. 8, fig. 22; *C. & S.* no. 3983.

♂. Orange-yellow; head, thorax, and abdomen suffused with red. Fore wing with the costa purplish red; numerous ill-defined waved red lines on basal area; the outer half with four or five interrupted waved red lines, of which the inner three are strongest and conjoined in places. Hind wing with two subbasal red lines and five waved red lines on outer half.

Hab. Sikhim; Khásis. *Exp.* 24 millim.

SECT. IV. (*Cambogia*). Antennæ in both sexes bipectinated with long branches to two-thirds length; hind wing with outer margin rounded; veins 3, 4 stalked.

3847. **Cambogia lunulosa,** *Moore, Lep. Ceyl.* iii, p. 450, pl. 200, figs. 5, 5 *a*; *C. & S.* no. 3969.

Pseudasthena ochracea, *Warr. Nov. Zool.* p. 395.

Differs from *memorata* in the vertex of head being chestnut as well as the frons; the shaft of antennæ white; collar crimson. Fore wing with a subcostal crimson fascia; both wings with many of the waved lines obsolescent, and medial and postmedial lines more developed; an ill-defined marginal crimson band, with a purplish-silvery patch at outer angle.

The form *ochracea* has a diffused fuscous medial band and fuscous patches on the margin of fore wing; hind wing with the mark at anal angle developed into an oblique line.

Hab. Khásis; Ceylon. *Exp.* 22–26 millim.

3848. **Cambogia grataria,** *Wlk. Cat.* xxii, p. 663; *Moore, Lep. Ceyl.* iii, pl. 200, fig. 3; *C. & S.* no. 3968.

Acidalia pallicinctaria, *Wlk. Cat.* xxvi, p. 1612.

Crimson, suffused with purplish fuscous, except on disk of hind wing; both wings with numerous minutely waved lines; some bright yellow between two of the postmedial waved lines, coming out as a prominent patch beyond the cell of fore wing; the margin and cilia bright yellow, intersected by crimson at the angle of each wing. Underside pale.

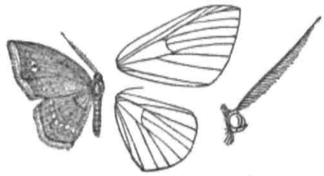

Fig. 196.
Cambogia grataria, ♂. 1.

Hab. Sikhim; Khásis; Rangoon; Poona; Mahableshwar: Ceylon. *Exp.* 22–24 millim.

Genus HASTINA.

Hastina, *Moore, Lep. Atk.* p. 260 (1888).

Type, *H. cæruleolineata*, Moore.
Range. Japan; Sikhim.

Palpi minute and hardly reaching beyond the frons; antennæ simple; hind tibiæ with two pairs of spurs. Fore wing with the apex falcate; the outer margin excised from apex to vein 4, where it is much excurved; 6, 7, 8, 9, 10 stalked, and 11 anastomosing strongly with them to form the areole. Hind wing with the margin crenulate; vein 5 from middle of discocellulars; 6, 7 stalked.

SECT. I. Both wings with vein 3 from the cell; hind wing with the margin produced to points at veins 4 and 6, and deeply excised between those points.

3849. **Hastina cæruleolineata,** *Moore, Lep. Atk.* p. 260; *C. & S.* no. 3071.

Fig. 197.
Hastina cæruleolineata, ♂. 1/1.

Dark red-brown, suffused with purplish grey; both wings with some bright blue scales on basal and outer areas; waved ante- and postmedial dark and bright blue lines, the latter excurved between veins 2 and 4 of each wing.

Hab. Sikhim. *Exp.* 22 millim.

3850. **Hastina ornata,** *Moore, P. Z. S.* 1867, p. 643; *C. & S.* no. 3978.

♂. Dark grey. Fore wing with broad yellow antemedial band narrowing below the cell, with waved edges and with indistinct waved scarlet lines on it; a very irregular postmedial yellow band with scarlet edges, widest at costa, expanding again at middle and very narrow towards inner margin. Hind wing with some scarlet at base; a scarlet and yellow postmedial sinuous band obsolescent towards costa; traces of four waved dark lines.

Hab. Sikhim. *Exp.* 26 millim.

SECT. II. Both wings with veins 3, 4 stalked; hind wing with the margin produced to long points at the veins.

3851. **Hastina gemmifera,** *Moore, P. Z. S.* 1867, p. 644; *C. & S.* no. 3931.

♂. Head, thorax, and 1st segment of abdomen black-brown, irrorated with silvery scales; abdomen ochreous, with white segmental lines, the extremity brown. Fore wing dark brown, irrorated with silver; the apical area white; a crimson medial band widest at vein 4 and inner margin; a submarginal series of white specks, situated on a diffused brown band on the apical white area,

which has also some brown strigæ on the margin. Hind wing with the basal half ochreous; a postmedial diffused brown band, with white and silver band on it; the outer area white, with a marginal series of brown lunules. Underside with the basal half of fore wing brown; a brown postmedial band to each wing.

Hab. Sikhim. *Exp.* 24 millim.

Genus STAMNODES.

Stamnodes, *Guen. Phal.* ii, p. 515 (1857).

Type, *S. pauperaria*, Eversm., from Central Asia.

Range. N. America; Altai; N.W. Himalayas.

Palpi slight and porrect; antennæ of male slightly thickened and flattened; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from close to angle of cell; 6 from above angle of cell; 7 from beyond the areole; 10 anastomosing with 11, and then with 7, 8, 9 to form the double areole. Hind wing with vein 3 from before angle of cell; 5 from above angle; the disco-cellulars angled and veins 6, 7 stalked.

3852. **Stamnodes pamphilata**, *Feld. Reis. Nov.* pl. 132, fig. 34; *C. & S.* no. 3885.

Fulvous orange; head, thorax, abdomen, and basal area of both wings suffused with fuscous. Fore wing with the costa fuscous, with four white spots on it; an oblique triangular fuscous postmedial patch from costa extending to vein 4; the apical area fuscous, narrowing to outer angle. Hind wing with the margin narrowly fuscous; cilia of both wings chequered white and fuscous. Underside with the base of fore wing suffused with fuscous; the dark markings and the whole of hind wing brown, grizzled with white.

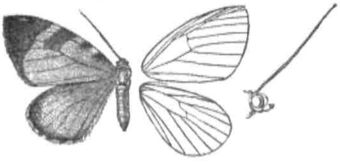

Fig. 198.
Stamnodes pamphilata, ♂. ½.

Hab. Kulu; Thundiáni; Dharmsála. *Exp.*, ♂ 34, ♀ 42 millim.

Genus STERRHA.

Sterrha, *Herr.-Schäffer, Eur. Schmett.* iii, p. 108 (1847) (*nec Hübn.*)
Pseudosterrha, *Warr. P. Z. S.* 1888, p. 324.
Rhodometra, *Meyr. Trans. Ent. Soc.* 1892, p. 75.

Type, *S. sacraria*, Linn.

Range. Europe; Africa; the N.W. Himalayas, Khásis, and throughout the plains of India.

Palpi porrect, the 2nd joint roughly scaled, the 3rd minute; antennæ of male bipectinated to three-fourths length; hind tibiæ with two pairs of spurs. Fore wing with vein 3 from before

angle of cell; 7, 8, 9 stalked; 10 given off from 11, and anastomosing with 8, 9 to form the areole. Hind wing with vein 3 from before angle of cell; 6, 7 stalked.

SECT. I. Fore wing of moderate breadth.

3853. **Sterrha sacraria**, *Linn. Syst. Nat.* i, 2, p. 863; *C. & S.* no. 3663.
Phalæna labda, *Cram. Pap. Exot.* ii, p. 129, pl. 181, fig. D.
Geometra sanguinaria, *Esp. Schmett. Eur.* v, p. 173, pl. 30, figs. 10, 11.

Straw-yellow. Fore wing with costal fascia from base to near middle and band from apex to middle of inner margin, in *sacraria* brownish, in *labda* bright crimson. Hind wing pure white.

Fig. 199.—*Sterrha sacraria*, ♂. ½.

Hab. Throughout Europe and Africa; the N.W. Himalayas, Khásis, and plains of India. *Exp.* 24–30 millim.

SECT. II. Fore wing narrower.

3854. **Sterrha paulula**, *Swinh. P. Z. S.* 1886, p. 456, pl. 41, fig. 7; *C. & S.* no. 3662.
Pseudosterrha ochrea, *Warr. P. Z. S.* 1888, p. 324; *C. & S.* no. 3663 A.

Ochreous. Fore wing with a slightly curved reddish line from apex to middle of inner margin; traces of a submarginal line. Hind wing whiter.

Hab. Campbellpur; Mhow. *Exp.*, ♂ 18, ♀ 22 millim.

Genus **LYCAUGIDIA**, nov.

Type, *L. albata*, Swinh.

Range. Sind.

Palpi minute; antennæ of male bipectinated to two-thirds length; hind tibiæ with one pair of spurs; wings long and narrow, the apices rounded. Fore wing with the outer margin very oblique; vein 3 from close to angle of cell; 5 from middle of discocellulars; 6 from upper angle; 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing long and narrow; vein 3 from before angle of cell; 5 from middle of discocellulars; 6, 7 stalked; 8 anastomosing with 7 to beyond middle of cell.

3855. **Lycaugidia albata**, *Swinh. P. Z. S.* 1885, p. 862, pl. 56, fig. 5.

♂. Brownish white, uniformly irrorated with fuscous; the vertex of head white. Fore wing with two indistinct obliquely curved submarginal lines.

Hab. Karáchi. *Exp.* 22 millim.

Subfamily ACIDALIINÆ.

Palpi usually slender, and hardly reaching beyond the frons. Fore wing with vein 5 from the middle of discocellulars or rarely from just above the middle; vein 10 stalked with 7, 8, 9; a single, or more rarely a double, areole being usually present. Hind wing with vein 5 fully developed, usually from the middle of discocellulars, rarely from just above the middle; 8 bent down and touching the cell near base, then rapidly diverging.

Key to the Genera.

A. Palpi slender, porrect, and hardly reaching beyond the frons.
- *a*. Hind wing with vein 5 from below middle of discocellulars, which are angled; fore wing with vein 11 anastomosing slightly with 8, 9, 10 to form the areole …… 1. EUPITHECIDIA, [p. 426.
- *b*. Hind wing with vein 5 from or from above middle of discocellulars, which are straight.
  - *a'*. Fore wing with no areole, veins 7, 8, 9, 10, 11 stalked ………………… 4. CHRYSOCRASPEDA, [p. 443.
  - *b'*. Fore wing with a single areole.
    - a^2. Hind wing with veins 6, 7 stalked.. 3. ACIDALIA, p. 436.
    - b^2. Hind wing with veins 6, 7 from the cell.
      - a^3. Hind wing with the outer margin not produced to a point at vein 4.
        - a^4. Fore wing with vein 11 anastomosing strongly with 8, 9, 10 to form the areole ……… 5. EPHYRA, p. 445.
        - b^4. Fore wing with vein 11 anastomosing slightly with 8, 9, 10 to form the areole.
          - a^5. Both wings with vein 5 from the middle of discocellulars . 2. CRASPEDIA, p. 426.
          - b^5. Both wings with vein 5 from above the middle of discocellulars.
            - a^6. Hind wing with the outer margin evenly rounded .. 12. PROBLEPSIS, p. 466.
            - b^6. Hind wing with the outer margin crenulate and excised between veins 6 and 4. 11. TRYGODES, p. 460.
      - b^3. Hind wing with the outer margin produced to a point at vein 4 .. 10. TIMANDRA, p. 458.
  - *c'*. Fore wing with vein 10 anastomosing with 11, and then with 8, 9 to form a double areole.
    - a^2. Hind wing with veins 6, 7 from cell.
      - a^3. Both wings with vein 5 from middle of discocellulars …….. 8. ERYTHROLOPHUS, [p. 452.

b³. Both wings with vein 5 from above middle of discocellulars .... 13. SOMATINA, p. 463.
b². Hind wing with veins 6, 7 stalked .. 9. RHODOSTROPHIA, [p. 455.
B. Palpi with the 2nd joint oblique and reaching beyond the frons; the 3rd long and porrect.
a. Fore wing with vein 10 anastomosing with 11 and then with 8, 9 to form the double areole; antennæ of male serrate and fasciculate .... 7. ORGANOPODA, p. 451.
b. Fore wing with veins 7, 8, 9, 10, 11 stalked, often with a small areole at their base; antennæ of male bipectinate .... 6. ANISODES, p. 446.

Genus **EUPITHECIDIA**, nov.

Type, *E. variegata*, Hmpsn.
Range. Nilgiris.

Palpi minute, and hardly reaching the frons; antennæ of male with long bristles and fascicles of cilia; hind legs slender, the tibiæ short and without spurs. Fore wing with the costa highly arched towards apex; vein 3 from before angle of cell; 7, 8, 9, 10 stalked, 11 anastomosing slightly with them to form the areole. Hind wing with the outer margin very much excurved towards apex; the inner margin very short; vein 3 from before angle of cell; the discocellulars angled, vein 5 being given off below the angle; veins 6, 7 stalked.

3856. **Eupithecidia variegata**, *Hmpsn. Ill. Het.* viii, p. 117, pl. 152, fig. 24.

Pale ochreous brown, irrorated with fuscous; frons black; abdomen with paired series of dorsal black spots. Fore wing with antemedial, medial, and postmedial series of black specks, largest at costa, the last with a maculate band beyond it from vein 4 to inner margin; traces of a submarginal line. Hind wing with medial and curved postmedial series of specks; both wings with prominent series of marginal black spots. The basal half of fore wing and outer area of both wings are often suffused with black.

Hab. Nilgiri plateau. *Exp.* 28 millim.

Genus **CRASPEDIA**.

Craspedia, *Hübn. Verz.* p. 312 (? 1818).
Lycauges, *Butl. A. M. N. H.* (5) iv, p. 373 (1879).
Trichoclada, *Meyr., Trans. Ent. Soc.* 1886, p. 208.
Runeca, *Moore, Lep. Atk.* p. 252 (1888).

Type, *C. ornata*, Scop., from Europe.
Range. Universally distributed.

Palpi reaching beyond the frons, the 3rd joint minute; antennæ of male fasciculated; hind legs of male usually much reduced, the tibiæ dilated with a fold containing a tuft of long hair and without spurs. Fore wing with vein 3 from before angle of cell; 7, 8, 9, 10

stalked from before upper angle, 11 anastomosing shortly with them to form the areole. Hind wing with vein 3 from before angle of cell; 6, 7 from upper angle.

SECT. I. Hind legs of male reduced; the tibiæ dilated with a fold and tuft of long hair from base, and fringed with scales on outer side.

A. *Hind wing with the outer margin more or less angled at vein 4.*

3857. **Craspedia mecysma,** *Swinh. Trans. Ent. Soc.* 1894, p. 179.

♂. Dark leaden grey. Fore wing with oblique ante- and postmedial lines, discocellular striga, and curved submarginal line. Hind wing with oblique sinuous antemedial line, discocellular striga, and curved postmedial line. Underside paler, with postmedial and submarginal lines on fore wing, medial and postmedial on hind wing.

Hab. Khásis. *Exp.* 24 millim.

3858. **Craspedia moorei,** *C. & S.* p. 532, no. 3571.
Anisodes similaria, *Moore, P. Z. S.* 1867, p. 641 (*nec Wlk.*); *Waterh. Aid*, pl. 151, fig. 2; *C. & S.* no. 3959.

Pinkish grey, irrorated with fuscous; frons black; the tibial tuft pale; the vertex of head white. Fore wing with indistinct antemedial and medial double curved lines; a dentate postmedial line, more prominent and with orange patches on it above middle and inner margin. Hind wing with traces of waved medial line; a black cell-speck; minutely dentate postmedial line, with fulvous patch above middle; both wings with marginal series of dark specks.

Hab. Mussooree. *Exp.* 38 millim.

3859. **Craspedia extimaria,** *Wlk. Cat.* xxiii, p. 782.
Craspedia stigmata, *Moore, Lep. Atk.* p. 253; *C. & S.* no. 3960.

Differs from *moorei* in being ochreous, with slight fuscous irroration; the tibial tuft black; the patches beyond the postmedial line of fore wing dark rufous; no patch on hind wing; the marginal specks prominent.

Hab. N.W. Himalayas; Sikhim; Sylhet; Nágas. *Exp.* 36 millim.

3860. **Craspedia opsinaria,** *Swinh. Trans. Ent. Soc.* 1892, p. 15.

♂. Differs from *moorei* in being slightly more ochreous in tone; the medial line of both wings more prominent; no patches beyond the postmedial line.

Hab. Khásis. *Exp.* 36 millim.

3861. **Craspedia walkeri,** *Butl. P. Z. S.* 1883, p. 170; *C. & S.* no. 3952.
Acidalia extimaria, *Wlk. Cat.* xxiii, p. 794; *Moore, Lep. Ceyl.* iii, pl. 204, fig. 5 (præocc.).

♂. Differs from *extimaria* in the antennæ of male having the serrations minute and the fascicles of cilia longer; colour ochreous grey, more irrorated with fuscous; the medial line diffused, and on hind wing embracing the cell-spot; the patches beyond the postmedial line replaced by black marks.

♀. More irrorated with fuscous, often prominently so, and with the lines diffused and prominent.

Hab. Nilgiris; Ceylon; Khásis; Shán States. *Exp.* 34 millim.

3862. **Craspedia fluidaria**, *Swinh. P. Z. S.* 1885, p. 856, pl. 56, fig. 10; *C. & S.* no. 3552.

♀. Dull ochreous grey, irrorated with fuscous. Fore wing with curved antemedial line; both wings with waved medial line, with a large diffused dark mark at end of cell; a minutely dentate postmedial line, with a maculate fuscous band beyond it; a series of short submarginal dark streaks on diffused spots; a marginal series of black specks.

Hab. Karáchi; Poona. *Exp.* 24 millim.

3863. **Craspedia atriceps**, n. sp.

Greyish white, with slight fuscous irroration; the frons black; antennæ and collar ochreous. Fore wing with the costa tinged with ochreous; an obliquely waved antemedial fuscous line; both wings with indistinct cell-speck; an oblique line, which is postmedial on fore wing and becomes antemedial on hind wing; a crenulate submarginal line, with a conjoined series of fuscous spots beyond it, and another indistinct series near the margin; a marginal series of specks.

Hab. Simla (*Harford*). *Exp.* 34 millim. Type in B. M.

3864. **Craspedia eulomata**, *Snell. Tijd. v. Ent.* xx, p. 42, pl. 3, fig. 21.
Lycauges annularia, *Swinh. Trans. Ent. Soc.* 1890, p. 214, pl. 7, fig. 18.

♂. Brownish ochreous, irrorated with fuscous; the frons black; abdomen with dorsal black spots. Fore wing with three obliquely placed black specks on discocellulars, base of vein 2, and on vein 1; an oblique diffused fuscous postmedial shade from a black speck on vein 5 to inner margin; submarginal and marginal series of black specks. Hind wing with diffused antemedial shade; black annulus at end of cell in the Burmese form *annularia*, reduced to a speck in the typical form; three waved fuscous submarginal lines and a marginal series of black specks.

Hab. Nágas; Rangoon; Tenasserim; Java. *Exp.* 22 millim.

3865. **Craspedia nictata**, *Guen. Phal.* i, p. 506; *C. & S.* no. 3943.
Acidalia ligataria, *Wlk. Cat.* xxii, p. 748; *Hmpsn. Ill. Het.* ix, pl. 169, fig. 19; *C. & S.* no. 3939.

Ochreous white; the frons fuscous. Fore wing with a discocellular speck; indistinct obliquely waved fuscous antemedial and

medial lines, the latter on hind wing embracing the black discocellular spot; both wings with waved postmedial line, with fuscous marks beyond it above middle of fore wing and above inner margin of each wing; a submarginal series of fuscous marks; a marginal series of black specks.

Hab. Formosa; Moulmein; Rangoon; Ganjam; Bombay; Nilgiris; Ceylon. *Exp.* 24 millim.

3866. **Craspedia addictaria,** *Wlk. Cat.* xxii, p. 749; *Moore, Lep. Ceyl.* iii, pl. 201, figs. 3, 4; *C. & S.* no. 3953.
Acidalia metaspilaria, *Wlk. Cat.* xxiii, p. 793; *C. & S.* no. 3940.
Idæa grandicularia, *Swinh. P. Z. S.* 1885, p. 858, pl. 56, fig. 11; *C. & S.* no. 3932.

Ochreous white, bright ochreous, or in the form *grandicularia* grey suffused with fuscous. Differs from *nictata* in the postmedial line of fore wing being sinuous and much excurved below costa instead of minutely waved; the patches bright rufous, and the submarginal markings blue-grey.

Hab. Simla; Khásis; Poona; Nilgiris; Ceylon; Burma. *Exp.* 22–26 millim.

3867. **Craspedia idearia,** *Swinh. P. Z. S.* 1885, p. 857, pl. 56, fig. 15; *C. & S.* no. 3934.

Ochreous white. Differs from *addictaria* in having no rufous patches beyond the postmedial line of fore wing; the blue-grey submarginal markings prominent in female, obsolescent in male.

Hab. Mhow; Poona. *Exp.* 22 millim.

3868. **Craspedia linearis,** *Hmpsn. Ill. Het.* viii, p. 123, pl. 153, fig. 13.

Bright ochreous. Differs from *addictaria* in the postmedial line of fore wing being slightly waved below the costa, and with no rufous patches beyond it; the outer area of both wings pale fuscous, with a waved submarginal ochreous line and no grey markings.

Hab. Sikhim; Bhután; Nilgiris. *Exp.* 30 millim.

3869. **Craspedia modesta,** *Moore, Lep. Ceyl.* iii, p. 471, pl. 204, fig. 6; *C. & S.* no. 3624.
Craspedia latimarginaria, *Hmpsn. Ill. Het.* viii, p. 123, pl. 153, fig. 6.

Whitish, suffused with brownish fuscous. Fore wing with almost straight oblique antemedial line; both wings with oblique straight medial line, with an indistinct diffused fuscous cell-spot inside it on fore wing and prominent brown cell-speck beyond it on hind wing; a nearly straight postmedial line, the area beyond it more suffused with brownish fuscous, sometimes with pale submarginal patches; a dark marginal line.

Hab. Nilgiris; Ceylon. *Exp.* 30 millim.

3870. **Craspedia albomaculata,** *Moore, Lep. Atk.* p. 253; *C. & S.* no. 3917.

♂. Pale ochreous, irrorated with fuscous; frons black; vertex of head and first segment of abdomen white; both wings with black cell-speck; an oblique fuscous line from beyond cell of fore wing to inner margin of hind wing before middle; a submarginal series of prominent white spots somewhat curved on hind wing.

Hab. Sikhim. *Exp.* 32 millim.

3871. **Craspedia celebraria,** *Wlk. Cat.* xxiii, p. 794; *C. & S.* no. 3924.

Silvery white; the frons fuscous; abdomen ringed with fuscous. Both wings with oblique medial band of diffused fuscous scales; a black cell-speck; a dentate postmedial line with series of indistinct spots beyond it, and another series just inside the margin; a marginal series of black striæ; fore wing with the costa fulvous.

Hab. Nilgiri plateau. *Exp.* 30 millim.

B. *Hind wing with the outer margin slightly crenulate, and excised between veins 4 and 6.*

3872. **Craspedia deliciosaria,** *Wlk. Cat.* xxiii, p. 791; *Moore, Lep. Ceyl.* iii, pl. 201, fig. 7; *C. & S.* no. 3954.

Pure white; the frons and palpi fuscous; abdomen ringed with fuscous. Fore wing with indistinct waved antemedial line; an oblique waved medial line which on hind wing becomes antemedial and has a black speck beyond it; a prominent crenulate postmedial line angled below costa of each wing, and with a series of fuscous spots beyond it developed into fuscous-brown patches above middle of fore wing and towards inner margin of each wing; a series of submarginal fuscous marks, most developed on hind wing; a crenulate marginal line.

The European *ornata*, Scop., has the patches beyond the postmedial line rufous.

Hab. Nilgiris; Ceylon. *Exp.*, ♂ 22, ♀ 26 millim.

C. *Hind wing with the outer margin rounded.*

3873. **Craspedia kashmirensis,** *Moore, Lep. Atk.* p. 253; *C. & S.* no. 3955.

Craspedia ornata, *C. & S.* no. 3956 (*nec Scop.*).

Differs from *deliciosaria* in the medial line being more prominent, and on hind wing embracing the discocellular speck; the markings beyond the postmedial line pale fuscous, the patches rufous or not differentiated from the fuscous markings.

Hab. Japan; China; Kandahar; N.W. Himalayas; Sikhim. *Exp.* 26 millim.

3874. **Craspedia pedilata,** *Feld. Reis. Nov.* pl. 128, fig. 1; *C. & S.* no. 3957.
Craspedia insolata, *Butl. Ill. Het.* vii, p. 109, pl. 136, fig. 17.

White; the palpi fuscous. Fore wing irrorated with a few black scales, and with two minute cell-specks; traces of a medial line angled below the costa; the postmedial line running out to two angles below costa and one on vein 3; a rufous-brown band beyond it with waved outer edge and terminating in a black patch; traces of a pale submarginal rufous line. Hind wing with slightly waved antemedial line; black cell-speck; postmedial slightly sinuous line, with pale rufous band beyond it; a crenulate marginal line.

Hab. Dharmsála; ? Ceylon. *Exp.* 22 millim.

3875. **Craspedia opicata,** *Fabr. Ent. Syst. Suppl.* p. 457.
Pigia infantularia, *Guen. Phal.* ii, p. 20; *C. & S.* no. 4026.
Micronia vanaria, *Wlk. Cat.* xxiii, p. 820.

White, slightly irrorated with brown; frons blackish; abdomen with brown rings. Fore wing with prominent oblique brown line from lower angle of cell to inner margin near base; another line from apex to middle of inner margin; three submarginal lines diverging from the apex, of which the outer two are slightly waved; a marginal line. Hind wing with subbasal, antemedial, and medial prominent lines; two waved postmedial lines and a marginal line.

Hab. Ganjam; Nilgiris; Ceylon. *Exp.* 20 millim.

3876. **Craspedia costata,** *Moore, Lep. Ceyl.* iii, p. 463, pl. 204, fig. 3; *C. & S.* no. 3599.

White, slightly irrorated with fuscous; frons fuscous; base of collar fulvous. Fore wing with a fulvous costal fascia; an indistinct antemedial slightly waved oblique fuscous line, and more oblique narrow medial and two postmedial bands; a cell-speck, marginal series of specks, and indistinct marginal band. Hind wing with antemedial, postmedial, submarginal, and marginal bands. Underside with fuscous suffusion in cell of fore wing.

Hab. Ceylon. *Exp.* 26 millim.

3877. **Craspedia intensata,** *Moore, Lep. Ceyl.* iii, p. 453, pl. 200, fig. 7; *C. & S.* no. 3936.

♂. White, irrorated with fuscous; frons fuscous. Fore wing with the costa brown; an oblique antemedial line from cell to inner margin; medial and postmedial oblique waved lines, the former not reaching costa; two submarginal and a marginal line. Hind wing with antemedial, postmedial, two submarginal, and a marginal line.

♀. Much suffused with fuscous; fore wing with the antemedial line angled in cell and continued to the costa; both wings with cell-specks; hind wing with subbasal line.

Hab. Nilgiris; Ceylon. *Exp.* 24 millim.

3878. **Craspedia adeptaria**, *Wlk. Cat.* xxii, p. 753; *Moore, Lep. Ceyl.* iii, pl. 200, fig. 9; *C. & S.* no. 3915.

♂. White, irrorated with brown; frons blackish. Fore wing with indistinct sinuous antemedial fuscous line excurved above median nervure; both wings with cell-speck; a medial oblique line excurved round cell of fore wing; sinuous postmedial and submarginal lines, and a marginal series of specks.

♀. Suffused with fuscous; the submarginal dark line of fore wing with white on its outer edge.

Hab. Ganjam; Bombay; Ceylon. *Exp.* 16 millim.

3879. **Craspedia fibulata**, *Guen. Phal.* i, p. 490, pl. 15, fig. 5; *C. & S.* no. 3930.

Acidalia cleoraria, *Wlk. Cat.* xxiii, p. 792.
Acidalia inductata, *Wlk. Cat.* xxiii, p. 792; *C. & S.* no. 3935.
Acidalia effrenata, *Wlk. Cat.* xxvi, p. 1756; *C. & S.* no. 3928.
Acidalia distracta, *Butl. P. Z. S.* 1881, p. 616; *C. & S.* no. 3927.
Idæa mutanda, *Warr. P. Z. S.* 1888, p. 322.
Idæa marginepunctata, *Butl. Ill. Het.* vii, p. 22 (*nec Goëze*).
Idæa cœnosaria, *Butl. Ill. Het.* vii, p. 22 (*nec Led.*).

Grey, thickly irrorated with fuscous; the frons black. Fore wing with dentate antemedial, medial, and postmedial dark lines with olive edges, the medial line excurved round a black olive-edged cell-speck, the postmedial with a larger dentition at vein 6: a crenulate pale or white submarginal line expanding at middle and above inner margin into patches, which may be white and prominent or obscure. Hind wing with black cell-speck; a waved medial line; a dentate postmedial line; a pale crenulate submarginal line, sometimes expanding into pale patches above middle and above inner margin.

Effrenata is a dark grey specimen from Bhután.

Hab. Throughout India and Ceylon. *Exp.* 26–28 millim.

3880. **Craspedia aspilataria**, *Wlk. Cat.* xxiii, p. 791; *Moore, Lep. Ceyl.* iii, pl. 201, fig. 6; *C. & S.* no. 3920.

♀. Cream-colour; the frons blackish; wings irrorated with a few black scales. Fore wing with antemedial, and both wings with medial, postmedial, submarginal, and marginal very slightly waved bands of a darker tint than the ground-colour; a series of minute marginal black specks.

Hab. Bhután; Ceylon. *Exp.* 22 millim.

3881. **Craspedia actuaria**, *Wlk. Cat.* xxii, p. 752; *Moore, Lep. Ceyl.* iii, pl. 200, fig. 8; *C. & S.* no. 3914.

Differs from *aspilataria* in having a black speck at end of cell of each wing; the bands reduced to minutely waved lines; the medial line excurved beyond cell of fore wing, the postmedial slightly angled at veins 4 and 6 of each wing.

Nilgiri specimens have a slight fleshy tinge.

Hab. Persia; throughout India, Ceylon, and Burma; Andamans. *Exp.* 18 millim.

3882. **Craspedia pallida**, *Warr. P. Z. S.* 1888, p. 322; *C. & S.* no. 3943 A.

Idæa sylvestraria, *Butl. Ill. Het.* vii, p. 22 (*nec Hübn.*).
Idæa peralba, *Swinh. A. M. N. H.* (6) xii, p. 151.

White, with an ochreous tinge and slightly irrorated with fuscous; frons black; collar ochreous. Fore wing with oblique antemedial ochreous line; black cell-speck; obliquely sinuous postmedial ochreous line and three slightly waved lines on outer area. Hind wing with antemedial ochreous line; black cell-speck and three slightly waved ochreous lines on outer half; both wings with marginal series of black specks. Underside of fore wing with the costal half clouded with fuscous, the postmedial and three lines of outer area brown; hind wing with postmedial brown line.

Hab. N.W. Himalayas; Shán States. *Exp.* 26 millim.

3883. **Craspedia remotata**, *Guen. Phal.* i, p. 458; *C. & S.* no. 3948.

Acidalia nesciaria, *Wlk. Cat.* xxii, p. 750; *C. & S.* no. 3942.
Acidalia negataria, *Wlk. Cat.* xxii, p. 751.
Acidalia attentata, *Wlk. Cat.* xxii, p. 754; *C. & S.* no. 3921.
Acidalia absconditaria, *Wlk. Cat.* xxiii, p. 757; *C. & S.* no. 3912.
Acidalia patularia, *Wlk. Cat.* xxxv, p. 1633; *C. & S.* no. 3944.
Acidalia invalida, *Butl. A. M. N. H.* (5) iv, p. 439; *C. & S.* no. 3937.
Idæa undulataria, *Moore, Lep. Atk.* p. 252; *C. & S.* no. 3951.
Idæa strigilata, *Butl. Ill. Het.* vii, p. 22 (*nec Hübn.*).
Idæa beckeraria, *Butl. Ill. Het.* vii, p. 22 (*nec Led.*).
Idæa ocheracea, *Hmpsn. Ill. Het.* viii, p. 122, pl. 153, fig. 3.

Pale ochreous, irrorated with fuscous scales; the frons black. Fore wing with obliquely waved antemedial line not reaching the costa; both wings with dark cell-speck; an obliquely waved diffused line, which is postmedial on fore wing, and becomes antemedial on hind wing; a more prominent irregularly dentate submarginal line, with two indistinct diffused waved lines beyond it; a marginal series of black specks.

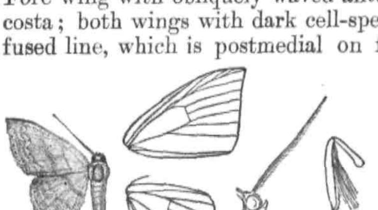

Fig. 200.—*Craspedia remotata*, ♂. 1/1.

The form *invalida* is suffused with fuscous; the form *ocheracea* has a flesh-coloured tint, the marginal specks almost obsolete; *patularia* is a large dusky form with dark specks on the postmedial line.

Hab. Japan; China; Formosa; throughout India, Ceylon, and Burma; Andamans; Borneo. *Exp.*, ♂ 25, ♀ 28 millim., (*patularia*) 34 millim.

3884. **Craspedia butyrosa,** *Warr. P. Z. S.* 1893, p. 362.

Bright straw-colour; frons black. Fore wing with erect antemedial darker line; indistinct cell-speck; postmedial line slightly excurved beyond the cell; a minutely waved submarginal line with a pale waved line beyond it. Hind wing with antemedial, postmedial, and submarginal minutely waved lines, the last indistinct; traces of marginal dark specks towards apex of each wing.

Hab. Dharmsála; Sikhim; Bhután. *Exp.* 26 millim.

3885. **Craspedia cæsaria,** *Wlk. Cat.* xxii, p. 750; *Moore, Lep. Ceyl.* iii, pl. 200, fig. 10; *C. & S.* no. 3923.
Acidalia obturbata, *Wlk. Cat.* xxii, p. 755.
Acidalia perfectaria, *Wlk. Cat.* xxiii, p. 783.

Ochreous, with a slight rufous tinge and fuscous irroration; frons blackish. Fore wing with obliquely waved antemedial line; both wings with cell-speck; an obliquely waved diffused purplish or pink line from costa of fore wing beyond middle to inner margin of fore wing before middle; a waved line, which on fore wing is submarginal with purplish or pink suffusion beyond it, except at apex, on hind wing postmedial with submarginal and marginal waved purplish or pink bands beyond it.

Hab. Ganjam; Nilgiris; Ceylon; Australia. *Exp.* 20 millim.

3886. **Craspedia ferruginea,** *Hmpsn. Ill. Het.* ix, p. 149, pl. 169, fig. 20.

White; the frons black; thorax and abdomen suffused with ferruginous; wings irrorated with a few black scales. Fore wing suffused with ferruginous, which is bright on the medial and basal inner areas; an indistinct antemedial line angled below the costa; a black cell-speck; a diffused fuscous postmedial line angled below the costa, then oblique; an indistinct rufous submarginal line highly angled at vein 6, and with a black spot at the angle; a sinuous white submarginal line. Hind wing with antemedial blackish line; cell-speck; sinuous postmedial rufous line, with a rufous band beyond it, and a submarginal line.

Hab. Ceylon. *Exp.* 26 millim.

3887. **Craspedia ferrilineata,** *Moore, Lep. Atk.* p. 252, pl. 8, fig. 13; *C. & S.* no. 3988.

♂. Whitish; frons blackish; collar and abdominal segments banded with ferruginous and fuscous. Fore wing with the costa rufous and fuscous; indistinct obliquely curved rufous antemedial, postmedial, and submarginal lines, the two last with some fuscous on them towards inner margin; a cell-speck; a diffused fuscous marginal band. Hind wing with fuscous and rufous antemedial oblique band; black cell-speck; postmedial and submarginal diffused rufous lines; a marginal fuscous band.

Hab. Sikhim; Khásis. *Exp.* 28 millim.

SECT. II. (*Lycauges*). Hind legs of male fully developed, the tibia with a terminal pair of spurs.

A. *Fore wing with the apex rounded.*

3888. **Craspedia jacta,** *Swinh. P. Z. S.* 1884, p. 526, pl. 48, fig. 12; *C. & S.* no. 3938.

♂. Yellowish white, irrorated with rufous; both wings with traces of cell-spot and of diffused antemedial, postmedial, and submarginal waved lines.

Hab. Karáchi. *Exp.* 16 millim.

B. *Fore wing with the apex produced.*

3889. **Craspedia defamataria,** *Wlk. Cat.* xxii, p. 752; *Moore, Lep. Ceyl.* iii. pl. 201, fig. 2; *C. & S.* no. 3755.

Ochreous, irrorated with fuscous, and usually suffused with flesh-pink; frons dark brown; vertex of head white; abdomen with dark segmental bands. Fore wing with traces of oblique antemedial line; a discocellular black spot; an oblique postmedial more or less prominent diffused band from the angle of the postmedial oblique series of black specks, which is recurved to costa. Hind wing with a diffused antemedial band from the discocellular black speck to inner margin; three slightly waved lines on the outer half of wing, the first being usually the most prominent; both wings with marginal series of black specks.

All the markings may be prominent or indistinct.

Hab. Nilgiris; Ceylon. *Exp.* 28 millim.

3890. **Craspedia emissaria,** *Wlk. Cat.* xxii, p. 751; *C. & S.* no. 3929.
Lycauges lactea, *Butl. A. M. N. H.* (5) iv, p. 373.

Differs from *defamataria* in the postmedial band of fore wing being much narrower and running through to the apex.

Hab. Japan; China; Dharmsála; Moulmein; Ganjam. *Exp.* 20 millim.

3891. **Craspedia anaitisaria,** *Wlk. Cat.* xxiii, p. 795; *C. & S.* no. 3919.

Differs from *defamataria* in the postmedial band of fore wing being less diffused and less oblique; the postmedial series of specks not recurved to costa and with a diffused band beyond it.

Hab. Nilgiris. *Exp.* 30 millim.

SECT. III. Hind tibiæ with the medial pair of spurs absent in both sexes.

A. *Wings of moderate breadth.*

3892. **Craspedia conscensa,** *Swinh. P. Z. S.* 1885, p. 863, pl. 57, fig. 8; *C. & S.* no. 3768.

♀. Ochreous, slightly irrorated and suffused with fuscous; frons

black. Fore wing with antemedial very oblique dentate fuscous line; a speck on discocellulars; a fuscous shade below apex. Hind wing with subbasal, medial, postmedial, and traces of submarginal waved lines; a discocellular speck.

Hab. Poona. *Exp.* 20 millim.

B. *Wings extremely long and narrow.*

3893. **Craspedia relictata,** *Wlk. Cat.* xxxv, p. 1629; *C. & S.* no. 3947.
Lycauges demissus, *Swinh. P. Z. S.* 1886, p. 456; *C. & S.* no. 3756.

♀. *Ochreous. Fore wing with very slight rufous tinge; both* wings with speck at end of cell; very oblique diffused postmedial shade and submarginal series of specks connected by a line.

Hab. Campbellpur; Karáchi; Mhow; Nilgiris. *Exp.* 22 millim.

Genus ACIDALIA.

Acidalia, *Treitschke, Eur. Schmett.* v, 2, p. 438 (1825).
Eois, *Hübn. Verz.* p. 308 (? 1818).
Sterrha, *Hübn. Verz.* p. 309, non descr. (*nec Herr.-Schäff.*).
Arrhostia, *Hübn. Verz.* p. 311.
Hyria, *Steph. Ill. Brit. Ent., Haust.* iii. p. 292 (1829), præocc.
Ptychopoda, *Steph. Ill. Brit. Ent., Haust.* iii, p. 305.
Janarda, *Moore, Lep. Atk.* p. 265 (1888).
Andragrupos, *Hmpsn. Ill. Het.* viii, p. 119 (1891).
Lophophleps, *Hmpsn. Ill. Het.* viii, p. 125.

Type, *A. ochrata*, Scop., from Europe.

Range. Universally distributed.

Palpi hardly reaching the frons. Fore wing usually somewhat acute and produced at apex; vein 3 from angle of cell; 7, 8, 9, 10 stalked from before upper angle, 11 anastomosing with them to form the areole. Hind wing with the outer margin rounded; vein 3 usually from before angle of cell; 6, 7 stalked *.

SECT. I. Antennæ of male ciliated.

A. (Acidalia). *Hind tibiæ of male not dilated, and with the medial spurs absent in both sexes.*

a. *Fore wing of male with the inner margin normal.*

a'. *Fore wing moderately broad and slightly produced at apex.*

3894. **Acidalia chotaria,** *Swinh. P. Z. S.* 1885, p. 858, pl. 57, fig. 14; *C. & S.* no. 3925.
Eois lineata, *Hmpsn. Ill. Het.* ix, p. 149, pl. 169, fig. 10.

Reddish ochreous, slightly irrorated with fuscous; frons fuscous. Fore wing with curved antemedial line; speck at end of cell; a minutely waved postmedial line, with black speck on it at costa and diffused fuscous patch beyond it between vein 4 and inner margin;

* Except in the male of *A. purpurea.*

ed submarginal line. Hind wing with indistinct antemedial waved postmedial line, with fuscous patch beyond it on inner n; traces of a waved submarginal line.

›. Mhow; Poona; Bombay; Nilgiris; Ceylon. *Exp.* 14 ı.

Acidalia humeraria, *Wlk. Cat.* xxvi, p. 1606; *C. & S.* no. 3933.
Idæa cerussina, *Butl. Ill. Het.* vii, p. 108, pl. 136, fig. 14.

Ochreous grey, irrorated with dark brown scales; vertex of vhite; collar fuscous. Fore wing with the basal half of costa y fuscous; an indistinct obliquely sinuous antemedial line; of a similar medial line dark at costa, then ochreous and he dark cell-speck on it; a curved postmedial line with series k specks on it and with diffused double lunulate brown marks d it at costa, middle, and inner margin. Hind wing with of antemedial line; a dark cell-speck; a postmedial line in-l near costa, angled outwards beyond the cell, then dentate ith diffused brown lunules beyond it towards inner margin; of a submarginal line; both wings with brown spots on the

›. Simla; Dharmsála. *Exp.* 20 millim.

Acidalia testacea, *Swinh. P. Z. S.* 1885, p. 863, pl. 57, fig. 15; *C. & S.* no. 3780.

Brownish grey, irrorated with fuscous; frons black. Fore with traces of curved antemedial and medial lines; a more nent curved fuscous postmedial line. Hind wing with ante-l diffused fuscous band, a cell-spot, and sinuous postmedial

›. Poona. *Exp.* 16 millim.

b′. *Fore wing long and narrow.*

Acidalia bilinea, *Swinh. P. Z. S.* 1885, p. 863, pl. 57, fig. 7; *C. & S.* no. 3786.

Ochreous, irrorated with fuscous. Fore wing with obliquely l antemedial fuscous line; black cell-specks; oblique fuscous edial line incurved below costa, and indistinct submarginal Hind wing with black cell-speck, curved postmedial line, ıdistinct submarginal line.

›. Poona. *Exp.* 15 millim.

. *Fore wing with the apex rounded; hind wing with veins 3, 4 stalked.*

Acidalia micra, *Hmpsn. Ill. Het.* ix, p. 148, pl. 169, fig. 16.

Cretaceous; the frons black; abdomen with some fuscous rsum. Fore wing with traces of sinuous antemedial and l lines, the former with a dark spot at costa; a sinuous post-l line, with large diffused fuscous patches beyond it at costa

and from vein 5 to inner margin. Hind wing with the base dark; a diffused medial line; a sinuous postmedial line, with diffused fuscous-grey patches beyond it at apex and from vein 5 to inner margin.

♀ with the diffused patches extending to outer margin, and on hind wing covering the whole outer area.

Hab. Ceylon. *Exp.* 14 millim.

b. (Andragrupos). *Fore wing of male with the inner margin developed into a large hook, extending almost completely across the hind wing; vein 1 distorted. Hind wing in both sexes with the outer margin slightly excised between veins 4 and 6.*

3899. **Acidalia violacea,** *Hmpsn. Ill. Het.* viii, p. 119, pl. 152, figs. 15, 16.

Pale rufous, irrorated with vinous brown. Fore wing with cell-spot; an indistinct antemedial line angled below costa; sinuous medial and postmedial lines terminating on the hook in male; the outer area suffused with vinous and with a pale sinuous submarginal line. Hind wing with antemedial diffused line; cell-speck; slightly sinuous medial line and traces of a postmedial line.

Hab. Nilgiris. *Exp.* 20 millim.

B. *Hind tibiæ of male dilated with a fold and tuft of hair from base and without spurs.*

a. *Hind tibiæ of male with a tuft of hair from extremity covering the tarsus.*

a′ (Ptychopoda). *Fore wing with the apex not produced to an acut point.*

a². *Fore wing of male with no patch of long hair on underside of inner margin.*

3900. **Acidalia actiosaria,** *Wlk. Cat.* xxii, p. 750; *Moore, Lep. Ceyl.* iii, pl. 200, fig. 11; *C. & S.* no. 3913.

Acidalia profanaria, *Wlk. Cat.* xxxv, p. 1628; *C. & S.* no. 3945.

Ochreous, suffused with purplish pink; head dark purple. Fore wing with the costa purplish; both wings with waved antemedial, medial, and postmedial lines, the medial line being often developed into a prominent fuscous line, or there may be purplish suffusion between it and the postmedial line; prominent dark cell-specks; a pale waved submarginal line and series of dark specks at base of cilia.

Fig. 201.—*Acidalia actiosaria,* ♂. ¾.

Hab. Sikhim; Nilgiris; Ceylon. *Exp.* 20–24 millim.

3901. **Acidalia leucozona**, n. sp.

♂. Ochreous; the frons fuscous; both wings with a broad somewhat ill-defined postmedial oblique whitish band. Underside of fore wing slightly suffused with fuscous as far as the postmedial band.

Hab. Bernardmyo, Burma (*Doherty*). *Exp.* 16 millim. Type in coll. Elwes.

b². *Fore wing of male with a small patch of long hair on inner margin below, just beyond the middle, and long cilia on the outer half of inner margin.*

3902. **Acidalia thricophora**, n. sp.

♂. Pale ochreous. Fore wing with traces of cell-speck, antemedial and medial diffused band, and of a curved postmedial line with diffused ochreous beyond it. Hind wing with traces of antemedial, medial, and postmedial lines. The tuft at end of tibia reddish, forming a cavity facing the tarsus and covered by the long tuft of pale hair from base of tibia.

Hab. Bernardmyo, Burma (*Doherty*). *Exp.* 22 millim. Type in coll. Elwes.

b'. (Janarda). *Fore wing with the apex extremely produced and acute.*

3903. **Acidalia acuminata**, *Moore, Lep. Atk.* p. 265; *C. & S.* no. 3709.

Ochreous; head, thorax, and abdomen brownish; vertex of head and shaft of antennæ white; wings with speck at end of cell; an indistinct waved submarginal line; the outer margin of both wings and costa of fore wing suffused with purplish fuscous.

Hab. Sikhim; Nágas. *Exp.* 24 millim.

3904. **Acidalia falcipennis**, *Warr. P. Z. S.* 1893, p. 362, pl. 32, fig. 11.

♀. Grey, thickly irrorated with fuscous; frons blackish; vertex of head white; an obscure fuscous line from lower angle of cell of fore wing to middle of inner margin of hind wing; traces of a waved postmedial line; a slightly sinuous submarginal whitish band; a marginal series of black strigæ; hind wing with black cell-speck.

Hab. Sikhim. *Exp.* 24 millim.

b. *Hind tibiæ of male with the hair at extremity slightly developed.*

3905. **Acidalia protensa**, *Butl. Ill. Het.* vii, p. 107, pl. 136, fig. 12.

Ochreous, with a slight rufous tinge; frons blackish; vertex of head white. Fore wing with the costa rufous; an indistinct sinuous antemedial line; both wings with strong oblique medial line; discocellular speck; postmedial line excurved from vein 6

to 2 of fore wing and beyond lower angle of cell of hind wing; the margin rufous; fore wing with some rufous suffusion inside the margin above middle and outer angle.

Hab. Dharmsála. *Exp.* 20 millim.

3906. **Acidalia insuavis,** *Butl. Ill. Het.* vii, p. 109, pl. 136, fig. 16.

Only differs from *purpurea* in the structural characters.

Hab. Dharmsála; Sikhim; E. Pegu. *Exp.*, ♂ 18, ♀ 22 millim.

3907. **Acidalia holosericata,** *Dup. Lep. France, Suppl.* iv, p. 109, pl. 59, fig. 7.

Ochreous white; the frons black. Fore wing with black cell-speck; antemedial and medial ochreous lines; three slightly waved ochreous bands on outer area. Hind wing with antemedial line, black cell-speck, and three ochreous bands on outer half.

Hab. Europe; N.W. Himalayas; Sikhim. *Exp.* 20 millim.

c. *Hind tibiæ of male immensely dilated, with no hair at extremity; the tarsus very minute. Fore wing with the inner area developed into an immense lobe.*

3908. **Acidalia amplipennis,** *Butl. Ill. Het.* vii, p. 111, pl. 136, fig. 18.

♂. Pale fulvous; frons blackish; vertex of head whitish. Fore wing with indistinct waved antemedial and medial lines; a dark striga on discocellulars; a waved submarginal outwardly-oblique line much bent inwards above inner margin, and with some dark suffusion beyond its medial portion between the veins. Hind wings with ante- and postmedial nearly straight lines; a cell-speck; both wings with marginal line.

♀. Paler, with the submarginal line of fore wing hardly waved and with purplish suffusion on outer area of each wing.

Hab. Dharmsála. *Exp.* 18 millim.

d. (Lophophleps). *Hind tibiæ of male very much dilated towards extremity, which has a fold containing a tuft of hair; the tarsus very much shortened and thickened. Fore wing of male very broad and lobed at outer angle; a tuft of long hair on underside from middle of inner margin. Hind wing of male with the apex curled over and clothed on upperside with long hair and rough scales; vein* 5 *from near upper angle of cell, the discocellulars being much angled;* 7 *from before the angle;* 8 *anastomosing with* 7 *to near end of cell: female with vein* 5 *from middle of discocellulars, which are straight;* 6, 7 *stalked;* 8 *from near base.*

3909. **Acidalia purpurea,** *Hmpsn. Ill. Het.* viii, p. 125, pl. 153, fig. 12.

Pale dull purple, irrorated with grey. Fore wing with the costa ochreous; a nearly straight ochreous antemedial band; a medial band excurved at lower angle of cell; a sinuous submarginal band.

Hind wing with sinuous antemedial band and postmedial band excurved at lower angle of cell.

Hab. Nilgiris; Ceylon. *Exp.*, ♂ 16, ♀ 18 millim.

e. *Hind tibiæ of male clothed at extremity with very large scales; the tarsal joints fringed with scales. Hind wing triangular, the outer margin straight, the anal angle very much produced; underside with the area from cell to anal angle clothed with long rough scales.*

3910. **Acidalia triangularis**, n. sp.

♂. Dull brownish ochreous. Fore wing with indistinct minutely waved postmedial and submarginal pale lines. Hind wing with submarginal line; the cilia long, thick, silky, and whitish; underside with the rough scales silky and whitish.

Hab. Nágas, 6000 feet (*Doherty*). *Exp.* 16 millim. Type in coll. Elwes.

SECT. II. (*Eois*). Antennæ of male serrate and fasciculate; hind legs reduced, the tibiæ without spurs, of female with a terminal pair; wings with the outer margin rounded.

3911. **Acidalia lacteipennis**, *Butl. Ill. Het.* vii, p. 107, pl. 136, fig. 11.

♂. Yellowish white; frons black. Fore wing with crimson submarginal band from vein 5 to inner margin, and with a sinuous inner edge; the inner area with slight crimson suffusion. Hind wing crimson, with pale discocellular spot and ill-defined pale waved submarginal line excurved beyond lower angle of cell; the margin and cilia yellowish white.

Hab. Dharmsála. *Exp.* 18 millim.

3912. **Acidalia marcidaria**, *Wlk. Cat.* xxii, p. 663; *Hmpsn. Ill. Het.* ix, pl. 169, fig. 4; *C. & S.* no. 3975.

Brownish ochreous, with a slight red tinge; frons brown; both wings with traces of antemedial and medial waved red lines and more prominent sinuous submarginal line; the margin suffused with red.

Hab. Ceylon. *Exp.* 16 millim.

SECT. III. Antennæ of male bipectinated to near apex; hind legs not reduced, the tibiæ with two pairs of spurs; outer margin of fore wing slightly angled at vein 4, of hind wing prominently angled.

A. *Hind wing with veins* 3, 4 *from cell.*

3913. **Acidalia permutans**, *Hmpsn. Ill. Het.* viii, p. 123, pl. 153, figs. 17, 18, 19, 20, 21.

Hyria auricincta, *Hmpsn. Ill. Het.* ix, p. 149, pl. 169, fig. 3.

♂. Golden yellow; the frons crimson; the vertex of head

white; thorax and abdomen suffused with crimson or purple Fore wing with the basal half either spotted with crimson and with a medial band angled on median nervure, or with antemedial and medial orange lines, the costal area blotched with purple; the outer area either with postmedial band of crimson irroration and with postmedial submarginal and marginal series of spots, or else with these markings orange and with a purple postmedial blotch on costal area running along the costa to apex. Hind wing marked with crimson like the fore wing, or with the markings orange and with a large blotch on basal inner area, crimson near the base purple outwardly.

♀. Entirely irrorated and suffused with crimson or dull purple, except at the margin, which is orange intersected with crimson at the angle of each wing, the lines dark; fore wing with dark cell-speck, hind wing with white.

The form *auricincta* from Ceylon and Burma has the female smaller; the wings uniform pink, except for the orange margin and with hardly a trace of lines or cell-specks.

Hab. Nilgiris; Ceylon; Burma. *Exp.* 30–34 millim.

B. *Hind wing with veins 3, 4 stalked.*

3914. **Acidalia deviaria,** *Wlk. Cat.* xxii, p. 664; *C. & S.* no. 3974.

♂. Head, thorax, and abdomen crimson; vertex of head and shaft of antennæ white; wings with the ground-colour yellow. Fore wing entirely covered with crimson except a sinuous antemedial yellow line, a large postmedial patch, and some yellow between the postmedial series of patches and the submarginal and marginal series of spots. Hind wing with crimson patches on inner area, a spot at end of cell, a submarginal series of patches, and marginal series of spots.

Hab. Khásis; Nilgiris. *Exp.* 26 millim.

3915. **Acidalia volutaria,** *Swinh. P. Z. S.* 1885, p. 858, pl. 56, fig. 14 *C. & S.* no. 3982.

Asthena tristicula, *Swinh. P. Z. S.* 1885, p. 859, pl. 56, fig. 17 *C. & S.* no. 3986.

Ochreous, with dull rufous suffusion and irroration, and a slight pink tinge; both wings with dark cell-speck and obscure oblique medial fuscous band; traces of a curved postmedial line; an obscure submarginal sinuous band angled at veins 3 and 5 of fore wing an obscure series of marginal specks.

The form *tristicula* is yellower, with the medial and submarginal bands more prominent; hind wing with white cell-speck.

Hab. Bombay. *Exp.* 22 millim.

3916. **Acidalia sanguinaria,** *Moore, P. Z. S.* 1867, p. 641; *C. & S* no. 3581.

Orange, irrorated and spotted with crimson; frons white, with

a crimson band; vertex of head and shaft of antennæ white. Fore wing with antemedial series of specks; medial purple-suffused crimson patches at end of cell and above inner margin; two large patches covering the greater part of the outer area. Hind wing with cell-spot and purple patch on inner area; submarginal patches below apex and near anal angle.

Hab. Sikhim. *Exp.* 38 millim.

Genus **CHRYSOCRASPEDA**, nov.

Type, *C. abhadraca*, Wlk.

Range. Throughout India, Ceylon, and Burma.

Palpi minute and hardly reaching the frons. Fore wing with vein 3 from before angle of cell; 7, 8, 9, 10, 11 stalked. Hind wing with veins 3, 4 from angle of cell or on a short stalk.

SECT. I. Antennæ of male bipectinate to three-fourths length; hind tibiæ with two pairs of spurs; hind wing with veins 6, 7 from angle of cell or on a short stalk.

A. *Wings with the outer margin evenly rounded.*

a. *Fore wing with the apex not produced.*

3917. **Chrysocraspeda mitigata,** *Wlk. Cat.* xxii. p. 664; *C. & S.* no. 3976.

Head, thorax, and abdomen crimson; wings orange, slightly irrorated with crimson. Fore wing with the base crimson; a crimson medial band; three submarginal spots and one on margin below middle. Hind wing with the base crimson; a very large patch on inner area from before middle to near anal angle and extending to vein 6.

Hab. Moulmein. *Exp.* 22 millim.

3918. **Chrysocraspeda plumbeofusa,** *Swinh. A. M. N. H.* (6) xiv, p. 136.

♂. Red, with darker striæ; antennæ pinkish; the head, thorax, the fore wing except beyond the cell, and the base of hind wing suffused with leaden grey. Fore wing with large black discocellular lunule. Hind wing with white discocellular spot; both wings with the cilia golden yellow. Underside of fore wing suffused with purplish fuscous except the apical one-third; hind wing pale.

Hab. Khásis. *Exp.* 28 millim.

b. *Fore wing with the apex produced and acute.*

3919. **Chrysocraspeda abhadraca,** *Wlk. Cat.* xxii, p. 636; *Moore, Lep. Ceyl.* iii, pl. 199, figs. 3, 3 *a*; *C. & S.* no. 3550.

Brown; the head, thorax, and abdomen suffused with crimson; metathorax with two white specks. Fore wing with a diffused subbasal band of pale pink not reaching the costa and with some dark specks on it; a small dark annulus at end of cell;

a submarginal diffused pink band with ill-defined waved dark line on it. Hind wing with subbasal pink dark-edged band; silvery-white discocellular spot; a diffused postmedial band of pink blotches with some darker marks on it; cilia of both wings orange. Underside bright pink.

Hab. Nilgiris; Ceylon. *Exp.*, ♂ 20, ♀ 26 millim.

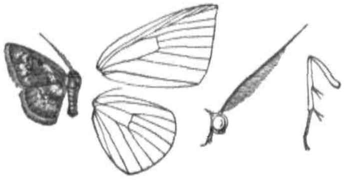

Fig. 202.
Chrysocraspeda abhadraca, ♂. ⅟₁.

3920. **Chrysocraspeda olearia**, *Guen. Phal.* i, p. 430; *C. & S.* no. 3977.
Chrysocraspeda cerasina, *Swinh. A. M. N. H.* (6) xii, p. 157.

Differs from *abhadraca* in being much pinker; wings with hardly a trace of markings except a black cell-spot on fore wing and bracket-shaped white discocellular mark on hind wing; a marginal red line; cilia golden yellow.

Hab. Sikhim. *Exp.* 22 millim.

B. *Wings with the outer margin crenulate, angled at vein 3 of fore wing and veins 3 and 4 of hind wing; fore wing with the costa clothed with rough hair.*

3921. **Chrysocraspeda iole**, *Swinh. Trans. Ent. Soc.* 1892, p. 3, pl. i, fig. 7.

♂. Orange-yellow, almost entirely suffused with purple. Fore wing with outwardly oblique antemedial yellow line; dark discocellular ocellus; a postmedial line outwardly oblique from costa to vein 3, where it joins a yellow spot on the margin, then bent inwards to vein 2 and outwards to outer angle; a crenulate submarginal line defining a marginal series of purple spots; cilia pink at vein 3 and near apex. Hind wing with angled subbasal yellow line; some diffused yellow patches at end of cell conjoined to a medial orange band angled outwards to the margin at vein 4; a highly crenulate submarginal line; cilia pink at veins 3 and 4. Underside of fore wing suffused with pink except the postmedial and marginal bands; hind wing with the base and a postmedial series of spots pink.

Hab. Khásis. *Exp.* 30 millim.

Sect. II. Antennæ of male serrate and fasciculate; hind legs very much reduced, with long tufts of hair from femora and base of tibiæ which entirely hide the leg; hind wing with veins 6, 7 on a long stalk.

A. *Fore wing produced at apex; the costa clothed with rough hair.*

3922. **Chrysocraspeda chrysocilia**, *Hmpsn. Ill. Het.* viii, p. 124, pl. 153, fig. 16.

♂. Red, with a purple tinge; frons blackish; 1st and last seg-

ments of abdomen dark. Fore wing with the costa purplish; an oblique purple band from three-fourths length of costa to outer angle. Hind wing with cell-speck and purple medial line; both wings with the margin purple and the cilia bright golden orange.

Hab. Nilgiri plateau. *Exp.* 20 millim.

B. *Fore wing not produced at apex; the costa smoothly scaled; hind wing with the outer margin slightly angled at vein* 4.

3923. **Chrysocraspeda marginata**, *Swinh. Trans. Ent. Soc.* 1894, p. 182.

♂. Ochreous, with purplish-red irroration; head purplish red. Fore wing with the costa purplish; indistinct waved antemedial, medial, and postmedial lines, the last with a series of specks on it; a discocellular speck. Hind wing with sinuous red ante- and post-medial lines; a discocellular speck; both wings with the margin purple; the cilia pink.

Hab. Khásis; Burma. *Exp.* 18 millim.

Genus EPHYRA.

Ephyra, *Dup. Lép. France*, iv, 2, p. 108 (1829).
Cosymbia, *Hübn. Verz.* p. 302 (? 1818), non descr.
Leucophthalmia, *Hübn. Verz.* p. 302.

Type, *E. pendularia*, Linn.

Range. Nearctic and Palæarctic regions; throughout India and Ceylon; Java; Celebes.

Palpi hardly reaching beyond the frons; antennæ of male bipectinated to two-thirds length. Fore wing with vein 3 from before angle of cell; 7, 8, 9 stalked from before upper angle, 10 and 11 anastomosing strongly with them to form the small areole. Hind wing with veins 3, 4 and 6, 7 from angles of cell.

The typical section has the medial pair of spurs of hind tibiæ absent in the male.

SECT. II. Hind tibiæ of male with the medial pair of spurs present; the branches of antennæ longer.

3924. **Ephyra invexata**, *Wlk. Cat.* xxvi, p. 1497; *Moore, Lep. Ceyl.* iii, pl. 199, fig. 2; *C. & S.* no. 3553.

Ephyra monochromata, *Wlk. Cat.* xxvi, p. 1754.
Ephyra quieta, *Swinh. P. Z. S.* 1885, p. 856, pl. 56, fig. 1; *C. & S.* no. 3555.
Ephyra maculifascia, *Hmpsn. Ill. Het.* viii, p. 111, pl. 151, fig. 9.

Mustard-yellow, more or less thickly irrorated with fuscous; frons fuscous brown. Fore wing with traces of ante- and post-medial series of specks, the latter excurved beyond cell; a white-centred black annulus at end of cell. Hind wing with annulus at end of cell and curved series of specks.

In the form *maculifascia* the discocellular spots have no pale centres and the series of black specks are prominent; in *quieta* a

diffused fuscous band is developed inside the postmedial series of specks.

Hab. Dharmsála; Bombay; W. Ghâts; Ceylon; Java. *Exp.* 32 millim.

3925. **Ephyra validaria,** *Wlk. Cat.* xxxv, p. 1607.
Iodis thalassica, *Moore, Lep. Ceyl.* iii, p. 430, pl. 194, fig. 6; *C. & S.* no. 3532.

Sea-green; the frons blackish. Fore wing with the costa ochreous; both wings with traces of sinuous antemedial and submarginal lines; fore wing with slight dark discocellular mark; hind wing with two white discocellular specks. Underside whitish.

Hab. Khásis; Nilgiris; Ceylon; Celebes. *Exp.* 22 millim.

Genus **ANISODES.**

Anisodes, *Guen. Phal.* i, p. 415 (1857).
Pisoraca, *Wlk. Cat.* xxiv, p. 1078 (1862).
Perixera, *Meyr. Trans. Ent. Soc.* 1886, p. 209.
Streptopteron, *Swinh. Trans. Ent. Soc.* 1892, p. 9.
Trirachopoda, *Hmpsn. Ill. Het.* ix, p. 147 (1893).
Mesotrophe, *Hmpsn. Ill. Het.* ix, p. 148.

Type, *A. lateritiaria*, H.-S., from S. America.

Range. Neotropical, Ethiopian, Oriental, and Australian regions.

Palpi with the 2nd joint reaching beyond the frons, the 3rd long and porrect; antennæ of male bipectinated for two-thirds length. Fore wing with vein 3 from before angle of cell; 7, 8, 9, 10, 11 stalked from before end of cell, often with a minute areole at their base. Hind wing with veins 3, 4 and 6, 7 from angles of cell.

SECT. I. (*Perixera*). Hind tibiæ of male extremely short, with a tuft of long crimson hair from base and three long curved spurs from extremity.

3926. **Anisodes obrinaria,** *Guen. Phal.* i, p. 414; *Moore, Lep. Ceyl.* iii, pl. 179, fig. 4 *a*; *C. & S.* no. 3573.
Anisodes obliviaria, *Wlk. Cat.* xxii, p. 643.
Anisodes caligata, *Wlk. Cat.* xxvi, p. 1584; *C. & S.* no. 3561.
Anisodes similaria, *Wlk. Cat.* xxvi, p. 1582; *C. & S.* no. 3582.
Anisodes suspicaria, *Snell. Tijd. v. Ent.* xxiv, p. 80, pl. 8, fig. 6.
Anisodes pallida, *Moore, Lep. Ceyl.* iii, p. 445, pl. 201, fig. 11; *C. & S.* no. 3575.

Pale rufous, irrorated with fine red scales; frons and vertex of head whitish. Fore wing with a curved series of three antemedial dark specks; a discocellular speck; traces of a waved postmedial line; a submarginal series of specks, the one on vein 5 displaced towards the base; a marginal series. Hind wing similar, but with a white-centred annulus varying in size at end of cell. Underside pale.

The female form *pallida* has the ground-colour much greyer and the irroration more prominent.

Hab. Khásis; Bombay; Nilgiris; Ceylon; Moulmein; Andamans; Borneo; Solomons. *Exp.* 30–32 millim.

3927. **Anisodes absconditaria**, *Wlk. Cat.* xxvi, p. 1580; *Hmpsn. Ill. Het.* viii, pl. 156, fig. 16; *C. & S.* no. 3558.
Anisodes patruelis, *Moore, Lep. Ceyl.* iii, p. 444, pl. 199, fig. 10; *C. & S.* no. 3577.

Differs from *obrinaria* in being larger, darker, and irrorated with fuscous; both wings with the antemedial specks absent; the waved postmedial line somewhat more prominent. Hind wing

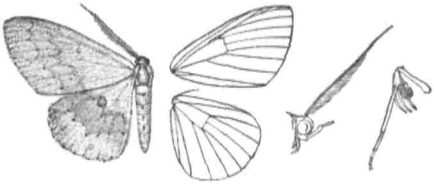

Fig. 203.—*Anisodes absconditaria*, ♂. 1/1.

with the annulus usually large, its black ring narrow in the Khási form, wide and diffused in the southern. Underside with the basal area of fore wing suffused with pink.

Hab. Khásis; Nilgiris; Ceylon. *Exp.* 40 millim.

3928. **Anisodes denticulata**, n. sp.

♂. Differs from *monetaria* in being more irrorated with fuscous; the dentate lines more prominent, also the postmedial and marginal black points. Hind wing with the discocellular annulus small.

Hab. Nága Hills (*Doherty*). *Exp.* 34 millim. Type in coll. Elwes.

SECT. II. Hind tibiæ of male fully developed; the medial pair of spurs absent.

3929. **Anisodes interpulsata**, *Wlk. Cat.* xxii, p. 642; *C. & S.* no. 3568.
Anisodes arenosaria, *Moore, Lep. Ceyl.* iii, p. 445, pl. 202, fig. 1; *C. & S.* no. 3560.

Grey, with a slight ochreous tinge, and irrorated with purplish fuscous; frons white, with a brown band above it. Both wings with traces of orange cell-speck and obliquely waved postmedial line; a curved series of dark postmedial specks, and series of marginal and cilial specks. Underside ochreous white, with pinkish suffusion on costa of fore wing and in cell.

The Khási form is less ochreous and more suffused with fuscous, with the orange cell-spot of hind wing large.

The typical form of the female *interpulsata* is less irrorated than *arenosaria*, and has a prominent antemedial series of black specks curving round along the subcostal nervure to the base of fore wing; the postmedial, marginal, and cilial specks more prominent.

Hab. Sikhim; Khásis; Nilgiris; Ceylon. *Exp.* 38 millim.

3930. **Anisodes argentispila**, *Warr. P. Z. S.* 1893, p. 361.
Anisodes hyperythra, *Swinh. A. M. N. H.* (6) xiv, p. 135.

Dark rufous, irrorated with fuscous; vertex of head and shaft of antennæ white. Fore wing with traces of curved antemedial and medial bands and discocellular line; indistinct waved postmedial and submarginal lines. Hind wing with the annulus large with either the white centre large or the black edge wide, or in the form *argentispila* a large bidentate black-edged white spot; traces of waved postmedial and submarginal lines. Underside pink.

Hab. Khásis; Nágas. *Exp.* 36 millim.

3931. **Anisodes dotilla**, *Swinh. Trans. Ent. Soc.* 1894, p. 179.

♂. Purplish grey, irrorated with pink. Fore wing with small white-centred cell-spot; hind wing with white-centred black annulus; both wings with traces of waved postmedial line; submarginal and marginal series of black specks. Underside purplish pink.

Hab. Khásis. *Exp.* 32 millim.

3932. **Anisodes intermixtaria**, *Swinh. Trans. Ent. Soc.* 1892, p. 8.

♂. Ochreous, irrorated with rufous and fuscous; frons whitish; palpi pink above. Fore wing with waved antemedial fuscous line; both wings with dentate medial and postmedial lines, the latter with a series of black specks on it; some fuscous markings on outer area and a double marginal series of black specks; fore wing with discocellular speck; hind wing with small white-centred ocellus.

Hab. Khásis. *Exp.* 30 millim.

3933. **Anisodes pulverulenta**, *Swinh. Trans. Ent. Soc.* 1892, p. 9, pl. 1, fig. 8.

♂. Ochreous, thickly irrorated with ochreous and fuscous; frons white; pale pink above. Fore wing with traces of antemedial and medial lines; a diffused dark patch at end of cell; dentate postmedial and submarginal lines, with some dark marks between them, the former with dark specks on it; a marginal series of specks. Hind wing with small annulus at end of cell, dentate medial line, postmedial series of specks, and obscure submarginal waved line. Underside pale, with some pink suffusion on costa and at end of cell of fore wing. (Hind tibiæ wanting.)

Hab. Khásis; Nágas. *Exp.* 30 millim.

3934. **Anisodes annulifera**, *Hmpsn. Ill. Het.* ix, p. 147, pl. 169, fig. 15.

♀. Ochreous, irrorated with rufous. Fore wing with a black speck at end of cell; hind wing with a white-centred annulus; both wings with the margin reddish, and with a double series of diffused fuscous submarginal spots and a series of black marginal specks.

Hab. Ceylon. *Exp.* 26 millim.

3935. **Anisodes heydena,** *Swinh. Trans. Ent. Soc.* 1894, p. 178.

♂. Ochreous, thickly irrorated with fuscous; palpi crimson above; frons white; both wings with an antemedial line indistinct and dentate on fore wing, straight on hind wing; an irregular medial line, interrupted by a large rufous-edged purplish-fuscous patch below cell of each wing; a postmedial brown line, slightly curved on fore wing and obsolescent towards inner margin, angled at vein 6 of hind wing; an oblique streak from apex of fore wing; a semicircular mark on outer area at vein 5 of each wing; some fuscous submarginal marks and a marginal series of black specks. Underside with the patch of fore wing, medial line of hind wing, and some submarginal marks on both wings crimson.

Hab. Khásis. *Exp.* 36 millim.

Sect. III. Hind tibiæ of male with the inner medial spur absent.

A. *Mid tibiæ of male not fringed with hair; fore wing with veins* 5, 6, 7 *not distorted.*

a. (Pisoraca). *Fore wing of male with the inner area not distorted.*

3936. **Anisodes obstataria,** *Wlk. Cat.* xxiii, p. 769.

Anisodes subroseata, *Wlk. Cat.* xxvi, p. 1583; *C. & S.* no. 3583.
Anisodes acuta, *Moore, Lep. Ceyl.* iii, p. 445, pl. 215, fig. 9; *C. & S.* no. 3559.
Ephyra subdolaria, *Swinh. P. Z. S.* 1885, p. 856; *C. & S.* no. 3557.

Pale pinkish rufous; frons pale, with pink above it. Each wing with traces of antemedial series of specks; discocellular speck; faint traces of waved postmedial line and submarginal series of specks. Underside pale.

Hab. Khásis; Bombay; Nilgiris; Ceylon; Borneo. *Exp.* 26–30 millim.

3937. **Anisodes nebulosata,** *Wlk. Cat.* xxvi, p. 1583; *Moore, Lep Ceyl.* iii, pl. 199, fig. 5; *C. & S.* no. 3572.

♀. Pale pinkish brown, with rufous irroration. Fore wing with diffused fuscous antemedial band; both wings with whitish discocellular mark, a diffused medial band narrow at inner margin, some fuscous patches on the submarginal series of specks; a large fuscous patch on outer area above middle; a marginal series of specks. Underside pale.

Hab. Ceylon. *Exp.* 32 millim.

3938. **Anisodes ignorata,** *Wlk. Cat.* xxvi, p. 1584; *Hmpsn. Ill. Het.* ix, pl. 169, fig. 2; *C. & S.* no. 3566.

♀. Yellow-brown, with slight rufous irroration and traces of a discocellular line on each wing.

Hab. Ceylon. *Exp.* 28 millim.

3939. **Anisodes monetaria**, *Guen. Phal.* i, p. 418.
Anisodes lichenaria, *Swinh. Trans. Ent. Soc.* 1892, p. 8.
Perixera obscurata, *Warr. P. Z. S.* 1893, p. 361, pl. 32, fig. 20.

Differs from *absconditaria* (p. 447) in being yellow-brown, more prominently irrorated with rufous. Hind wing with the discocellular annulus large, with either its black edge wider or the white centre large.

The Khási form *lichenaria* has well-marked antemedial, medial, and postmedial waved bands, the discocellular spot of hind wing a minute speck. The medial spur of the hind tibiæ of male is placed almost at the extremity of the tibia.

Hab. Sikhim; Khásis; Nágas; Travancore; Ceylon; Borneo. *Exp.* 36 millim.

3940. **Anisodes discifera**, *Swinh. A. M. N. H.* (6) xiv, p. 135.

♂. Differs from *heydena* (p. 449) in the rufous-edged discal mark of each wing being smaller, the antemedial, medial, postmedial, and submarginal lines regularly waved on both wings.

Hab. Khásis. *Exp.* 28 millim.

b. (Streptopterum). *Fore wing of male with the outer angle extremely truncate, the inner area being modified into a large lobe, to which veins 2, 3, 4 are bent down; vein 1 short; the discocellulars angled, and vein 5 from above the angle. Hind wing very ample, the costal area being expanded and the costa arched; veins 7 and 8 much curved, vein 7 with a ridge of rough scales on upperside; the discocellulars oblique.*

3941. **Anisodes posticampla**, *Swinh. Trans. Ent. Soc.* 1892, p. 10, pl. 1, fig. 12.

♂. Ochreous, irrorated with red; abdomen with a black terminal spot. Fore wing with a large irregular fuscous black mark on the lobe; both wings with postmedial and marginal series of minute black specks. Underside with slight pink suffusion.

Hab. Khásis. *Exp.* 34 millim.

B. (Mesotrophe). *Male with the mid tibiæ fringed with long hair; fore wing with vein 5 slightly distorted; 6, 7 much distorted, and running close along each other for half their length.*

3942. **Anisodes intortaria**, *Guen. Phal.* i, p. 419.
Anisodes expunctaria, *Wlk. Journ. Linn. Soc.* iii, p. 194.
Anisodes ovisignata, *Moore, Lep. Ceyl.* iii, p. 444; *C. & S.* no. 3574.

Ochreous, irrorated with rufous; the frons rufous. Fore wing with indistinct antemedial series of specks; dark specks at angles of cell; traces of a diffused medial band; an irregularly placed postmedial series of specks and a marginal series. Hind wing with white-centred cell-spot; traces of a diffused medial band; a curved series of postmedial specks and marginal series of specks.

Hab. Khásis; Ceylon; Singapore; Borneo. *Exp.* 38 millim.

3943. **Anisodes maximaria**, *Guen. Phal.* i, p. 419.

♂. Rufous, with darker irroration. Frons chestnut. Fore wing with waved antemedial line; oblique discocellular annulus; medial dentate line bent inwards below vein 4; dentate postmedial line, with a series of dark spots beyond it; a marginal series of specks. Hind wing with white-centred cell-spot; dentate medial line; postmedial series of specks; submarginal series of spots; a marginal series of specks. Underside suffused with pink.

♀. Much darker rufous, with the black markings obsolete, except those near outer angle of fore wing and anal angle of hind wing, or the black markings may be quite obsolete, except the cell-spot of hind wing.

Hab. Ceylon; Borneo. *Exp.* 38 millim.

Genus **ORGANOPODA**.

Organopoda, *Hmpsn. Ill. Het.* ix, p. 147 (1893).

Type, *O. carnearia*, Wlk.

Range. N.W. Himalayas; Khási Hills; Ceylon.

Differs from *Anisodes* in the antennæ of male being serrate and fasciculate. Fore wing with vein 10 given off from 7, 8, 9, anastomosing with 11, and then again with 8, 9, to form a double areole. Hind tibiæ of male much aborted and modified as a sensory organ; a large tuft of long hair from base of tibia, the distal portion of which is much modified in shape and has only the terminal pair of spurs, the inner spur taking the form of a hollow vesicle pigmented black inside, with an aperture near its base; the first two joints of tarsus bent, and produced outwards into a thin curved corneous wing, forming a shield overlying and protecting the modified spur, the terminal joints of tarsus and ungues very minute.

3944. **Organopoda carnearia**, *Wlk. Cat.* xxii, p. 644; *Moore, Lep. Ceyl.* iii, pl. 199, fig. 6; *C. & S.* no. 3562.

Pinkish rufous, with a fuscous tinge; frons bright chestnut; vertex of head and shaft of antennæ white. Fore wing with a fuscous fascia below costa; irregularly waved fuscous antemedial, postmedial, and submarginal lines, the two latter bent inwards below vein 2; a dark discocellular speck.

Fig. 204.—*Organopoda carnearia*, ♂. ½.

Hind wing with fuscous-edged white annulus at end of cell; an irregularly waved postmedial line. Underside pink.

Hab. Ceylon. *Exp.* 36 millim.

3945. **Organopoda annulifera**, *Butl. Ill. Het.* vii, p. 107, pl. 136, fig. 1(

♂. Differs from *carnearia* in the 2nd and 3rd joints of palpu being somewhat shorter; the colour paler; the cell-spots larg and with grey centres; the postmedial line of fore wing mor waved; submarginal and marginal series of specks. Undersid without the postmedial line.

Hab. Dharmsála; Khásis. *Exp.* 36 millim.

Genus ERYTHROLOPHUS.

Erythrolophus, *Swinh. Trans. Ent. Soc.* 1892, p. 10.
Synegiodes, *Swinh. Trans. Ent. Soc.* 1892, p. 11.
Tanaotrichia, *Warr. P. Z. S.* 1893, p. 360.

Type, *E. fascicorpus*, Swinh.

Range. Himalayas; Khási and Nága Hills.

Palpi thickly scaled and reaching just beyond the frons. Fore wing with veins 7, 8, 9, 10 stalked, 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing with veins 3, 4 and 6, 7 from angles of cell.

SECT. I. Antennæ of male minutely serrate and fasciculate; hind tibiæ dilated, with a tuft of hair from base and a terminal pair of spurs; fore wing with vein 3 from angle of cell; hind wing with the outer margin rounded.

A. *Hind tibiæ of male with the inner spur thickly clothed with hair.*

3946. **Erythrolophus idæa**, *Swinh. Trans. Ent. Soc.* 1892, p. 6.

♂. Sea-green; the frons and pectus crimson. Fore wing with the costa crimson; traces of antemedial, medial, postmedial, and submarginal sinuous lines; a black speck at end of cell. Hind wing with **V**-shaped white discocellular mark; traces of sinuous medial and submarginal lines; both wings with green marginal line and series of white specks. Underside whitish; the whole of fore wing suffused with crimson.

Hab. Sikhim; Khásis; Nágas. *Exp.* 30 millim.

3947. **Erythrolophus semiustus**, *Swinh. MS.*

♂. Dull grey-green; frons crimson; vertex of head and abdomen reddish ochreous. Fore wing with a discocellular red striga; traces of ante- and postmedial sinuous lines and a prominent sinuous submarginal line; a large orange subapical patch, extending to the postmedial line and to below vein 4, suffused with crimson, the veins on it crimson and crossed by a submarginal series of lunules. Hind wing with a crimson-suffused orange patch occupying the whole wing except the costal area; a white cell-speck and prominent medial and submarginal sinuous dark lines. Underside yellowish, the whole fore wing, except the apical area, suffused with purple; the lines prominent. (Hind legs wanting.)

Hab. Khásis. *Exp.* 24 millim.

B. *Hind tibiæ of male fringed with hair at extremity; the 1st joint of tarsus much dilated and fringed with hair.*

3948. **Erythrolophus hampsoni,** *Swinh. Trans. Ent. Soc.* 1892, p. 14.

♂. Rufous, with slight fuscous suffusion; frons dark crimson; vertex of head whitish. Fore wing with the costa fuscous; an indistinct antemedial line; a dark cell-speck; hind wing with two white cell-specks on a dark striga; both wings with indistinct waved medial, postmedial, and submarginal lines; a marginal fine line, interrupted by pale specks. Underside suffused with pink; the postmedial waved line prominent.

Hab. Khásis. *Exp.* 32 millim.

3949. **Erythrolophus punctimargo,** n. sp.

♂. Differs from *hampsoni* in having a marginal series of prominent white specks to each wing; hind wing with a very large grey tridentate mark at end of cell of hind wing, with a similar small mark in its centre.

Hab. Sikhim (*Knyvett*). *Exp.* 40 millim. Type in coll. Elwes.

3950. **Erythrolophus genuflexus,** n. sp.

Vinous red; vertex of head white. Fore wing with the costa purplish; a straight antemedial line; dark cell-speck; straight postmedial line; a submarginal line bent outwards between veins 2 and 5. Hind wing with straight antemedial line; white cell-speck; postmedial line bent outwards between veins 2 and 5.

Hab. Sikhim (*Elwes*). *Exp.* 30 millim. Type in coll. Elwes.

SECT. II. Antennæ of male bipectinated for three-fourths length.

A. (Synegiodes). *Hind tibiæ of male with two pairs of spurs; wings with the margins slightly crenulate and angled at vein 4; fore wing with vein 3 from angle of cell.*

3951. **Erythrolophus hyriarius,** *Wlk. Cat.* xxxv, p. 1617; *Butl. Ill. Het.* vi, pl. 118, fig. 5; *C. & S.* no. 3565.
Synegiodes histrionaria, *Swinh. Trans. Ent. Soc.* 1892, p. 12.

♂. Yellow, irrorated with rufous; frons chestnut; vertex of head and shaft of antennæ white. Fore wing with the basal half of costa purplish; both wings with white cell-speck; a diffused indistinct medial band; a postmedial indistinct band, with series of specks inside it, slightly curved on fore wing, angled at vein 4 of hind wing.

♀. Redder, with the bands more prominent.

The variety *histrionaria* is somewhat yellower, with a dark blotch on outer area of fore wing above middle, and a large blotch occupying the area near outer angle.

Hab. Sikhim; Khásis. *Exp.* 38 millim.

3952. **Erythrolophus diffusifascia**, *Swinh. Trans. Ent. Soc.* 1892, p. 11, pl. 1, fig. 9.

Yellowish, irrorated and suffused with pink. Fore wing with oblique medial diffused fuscous band; a white cell-speck; a submarginal diffused fuscous band expanding into a large dark patch above middle and into another patch covering the whole area near outer angle. Hind wing with white cell-spot; diffused medial fuscous band; an indistinct postmedial line, with series of blackish specks and diffused fuscous band beyond it.

Hab. Khásis. *Exp.* 42 millim.

B. *Hind legs of male very small; the tibiæ dilated and without spurs; a large tuft of hair from femoro-tibial joint; hind wing with the outer margin angled at vein 4.*

3953. **Erythrolophus pallivittatus**, *Moore, P. Z. S.* 1867, p. 641; *C. & S.* no. 3576; *Waterh. Aid*, pl. 151, fig. 3.

♂. Ochreous grey; frons, palpi, and a ring behind the head jet-black; wings irrorated with a few rufous and fuscous scales. Fore wing with a ferruginous antemedial speck below costa and two above inner margin; a pale ferruginous discocellular spot; both wings with pale ferruginous obliquely waved medial and postmedial lines, the latter with a deep rufous patch beyond it at vein 5 and a larger patch above inner margin; a marginal series of rufous specks. Underside with the lines dark and prominent.

Hab. Sikhim; Khásis. *Exp.* 54 millim.

3954. **Erythrolophus persimilis**, *Moore, Lep. Atk.* p. 254; *C. & S.* no. 3958.

Differs from *pallivittatus* in being grey, irrorated with fuscous; the vertex of head white; wings with the markings fuscous instead of rufous; the postmedial line reduced to a series of prominent specks and with no patches beyond it, but traces of dark markings and some submarginal marks.

Hab. N.W. Himalayas. *Exp.*, ♂ 40–44, ♀ 50 millim.

C. (Erythrolophus). *Hind legs of male not reduced; the tibiæ dilated with a tuft of long hair from base and fringed with hair at extremity; a terminal pair of spurs; hind wing with the outer margin rounded.*

3955. **Erythrolophus fascicorpus**, *Swinh. Trans. Ent. Soc.* 1892. p. 11.

♂. Dull ochreous, irrorated with crimson; frons fuscous; abdomen with a black band on basal segment. Fore wing with curved antemedial series of black specks; black cell-spot; both wings with traces of waved medial line; an indistinct dentate postmedial line, with series of black specks on it; a double marginal series of prominent black specks; hind wing with

prominent black annulus at end of cell. Underside with some crimson suffusion, especially on disk of fore wing.

Hab. Khásis. *Exp.* 36 millim.

3956. **Erythrolophus albivertex,** *Swinh. Trans. Ent. Soc.* 1891, p. 15.

♂. Pale rufous, thickly irrorated with dark red: frons dark purple; vertex of head white. Fore wing with indistinct waved ante- and postmedial fuscous lines; a cell-speck; an irregularly dentate submarginal line. Hind wing with prominent black cell-speck and irregularly dentate submarginal line. Underside pale.

Hab. Khásis. *Exp.* 32 millim.

3957. **Erythrolophus prasonarius,** *Swinh. Trans. Ent. Soc.* 1892, p. 12.
Tanaotrichia trilineata, *Warr. P. Z. S.* 1893, p. 361, pl. 32, fig. 2.

Pale rufous, thickly irrorated with dark red; frons chestnut; vertex of head white. Fore wing with the costa fuscous; an antemedial line curved below costa; a cell-speck; both wings with prominent oblique straight fuscous line, postmedial on fore wing, medial on hind wing; a sinuous submarginal line, excurved between veins 2 and 4 of each wing; a dark marginal line, and the veins fuscous.

The Sikhim form *trilineata* is much more ochreous in tone.

Hab. Sikhim; Khásis. *Exp.* 36 millim.

Genus **RHODOSTROPHIA**.

Rhodostrophia, *Hübn. Verz.* p. 300 (?1818).
Eusarca, *Herr.-Schäffer, eur. Schmett.* iii, p. 34 (1847).
Phyletis, *Guen. Phal.* ii, p. 169 (1857).
Delocharis, *Butl. P. Z. S.* 1883, p. 172.

Type, *R. calabra*, Petagn., from Europe.

Range. Palæarctic region; Himalayas; Khásis; Shán States.

Palpi hardly reaching beyond the frons; antennæ of male bipectinated, with fine branches to apex; hind tibiæ of male with the outer medial spur absent. Fore wing with vein 3 from before angle of cell; 5 from somewhat above middle of discocellulars: 7, 8, 9, 10 stalked, 10 anastomosing with 11, and then with 8, 9 to form the double areole. Hind wing with vein 3 from before angle of cell; 5 from above middle of discocellulars; 6, 7 stalked.

3958. **Rhodostrophia vinacearia,** *Moore, P. Z. S.* 1867, p. 642; *C. & S.* no. 3584.
Rhodostrophia stigmatica, *Butl. Ill. Het.* vii, p. 110, pl. 136, figs. 19, 20.

♂. Ochreous, with slight fuscous irroration; frons brown; legs yellow. Fore wing with the costa pink; a curved antemedial pink line; a dark discocellular spot; an oblique and slightly sinuous postmedial line, and sinuous submarginal line. Hind wing with subbasal line; dark discocellular speck; pink medial line; sinuous

postmedial line; the cilia of both wings pink. Underside yellow, with pink suffusion, and the veins pink.

♀ with hardly a trace of pink; the ground-colour browner; the cilia ochreous brown. A form of the male is coloured like the female.

Hab. Murree; Dharmsála; Sikhim; Khásis. *Exp.* 30 millim.

3959. **Rhodostrophia tristrigalis**, *Butl. Ill. Het.* vii, p. 110, pl. 157, fig. 1.

♂. Greyish ochreous. Differs from *vinacearia* in having the antemedial line of fore wing nearly straight and not reaching the costa; the cell-spot reduced to a speck; a broad oblique postmedial band and straight submarginal line. Hind wing with oblique medial band and straight submarginal line.

♀. Greyer, with the markings and cilia pinkish fuscous.

A specimen from the Shán States has the hind wing more ochreous, with the medial band and submarginal line obsolete on costal half.

Hab. Dharmsála; Shán States. *Exp.* 30 millim.

3960. **Rhodostrophia rara**, *Butl. Ill. Het.* vii, p. 111, pl. 157, fig. 2.

♂. Differs from *tristrigalis* in being bright ochreous; the antemedial line of fore wing and postmedial line of both wings less oblique; the submarginal line composed of minute lunules; hind wing without subbasal line.

♀. Rather darker; the apex of fore wing more pointed.

Hab. Dharmsála; Sikhim. *Exp.* 30 millim.

3961. **Rhodostrophia pelloniaria**, *Guen. Phal.* ii, p. 169; *C. & S.* no. 3674.

Dull ochreous, with more or less fuscous suffusion and irroration; frons and legs pinkish. Fore wing with the apex produced and acute; the costa pink; both wings usually with cell-speck; an oblique postmedial pink band broad on fore wing, on hind wing narrow and obsolescent towards costa; an indistinct submarginal line; the cilia pink. Underside suffused with pink.

Fig. 205.
Rhodostrophia pelloniaria, ♂. ½.

The oblique band of both wings varies much in width.

Hab. Murree; Thundiáni; Khásis. *Exp.* 32 millim.

3962. **Rhodostrophia meonaria**, *Guen. Phal.* ii, p. 170; *C. & S.* no. 3673.

Phyletis khasiana, *Moore, Lep. Atk.* p. 264; *C. & S.* no. 3672.

♂. Ochreous yellow. Fore wing with dark cell speck; an

oblique dull purplish postmedial band obsolete towards costa; the costa and cilia tinged with dull purple. Hind wing with faint traces of postmedial and submarginal lines, which are more prominent and tinged with red on underside.

Hab. Sikhim; Khásis. *Exp.* 32 millim.

3963. **Rhodostrophia herbicolens,** *Butl. P. Z. S.* 1883, p. 173; *C. & S.* no. 3670.

Dull ochreous, irrorated and suffused with brown; the frons brown; vertex of head white. Fore wing with narrow diffused antemedial brown band; a cell-speck; broad diffused medial band; a waved submarginal line with diffused brown beyond it. Hind wing with cell-speck; medial line and sinuous submarginal line usually with pinkish-brown suffusion beyond it.

A small male has the fore wing almost uniformly suffused with fuscous.

Hab. N.W. Himalayas. *Exp.* 30–34 millim.

3964. **Rhodostrophia similata,** *Moore, Lep. Atk.* p. 264; *C. & S.* no. 3675.

♀. Differs from *herbicolens* in being grey-brown without the ochreous tinge; the bands with a slight pink tinge; the postmedial band of hind wing obsolete, except towards inner margin; no dark suffusion beyond the submarginal line of either wing.

Hab. Sikhim; Khásis. *Exp.* 34 millim.

3965. **Rhodostrophia hæmatozona,** n. sp.

♂. Differs from *herbicolens* in the ground-colour being brownish ochreous; the frons and collar crimson. Fore wing with the base suffused with crimson; the postmedial and marginal bands crimson and further apart; no discocellular speck on either wing. Hind wing yellow, with the postmedial and submarginal bands only developed on inner area; cilia of both wings crimson.

Hab. Chumbi Valley, Sikhim (*Elwes*). *Exp.* 34 millim. Type in coll. Druce.

3966. **Rhodostrophia inconspicua,** *Butl. P. Z. S.* 1886, p. 391; *C. & S.* no. 3671.

Brown, with a pink tinge; frons brown. Fore wing with nearly straight antemedial line; both wings with cell-speck and broad postmedial band, the area beyond it more suffused with pink. Underside with a postmedial line.

The markings may be pink and prominent or indistinct.

Hab. Afghanistan; N.W. Himalayas. *Exp.* 35 millim.

3967. **Rhodostrophia borealis,** *Swinh. P. Z. S.* 1889, p. 427, pl. 44, fig. 8.

♂. Dull ochreous, suffused with fuscous. Fore wing with a pinkish tinge; hind wing paler. Fore wing with traces of an

antemedial line; both wings with dark cell-speck; minutely waved postmedial and submarginal lines, on fore wing filled in with fuscous; cilia pinkish fuscous. Underside suffused with pink; the outer area of fore wing ochreous.

Hab. Kulu; Pangi. *Exp.* 38 millim.

3968. **Rhodostrophia cinerascens,** *Moore, Lep. Atk.* p. 264; *C. & S.* no. 3669.
Rhodostrophia subflavida, *Warr. P. Z. S.* 1893, p. 360.

♂. Olive-grey. Fore wing with a slightly oblique band formed by straight postmedial and submarginal lines. Hind wing ochreous white, with a fuscous tinge on inner area; postmedial and submarginal lines obsolescent on costal area; the cilia fuscous. Underside with the costal and outer areas of fore wing and whole of hind wing orange-yellow.

Hab. Afghanistan; Kashmir. *Exp.* 38 millim.

Genus TIMANDRA.

Timandra, *Dup. Lép. France*, iv, 2, p. 224 (1829).
Calothysanis, *Hübn. Verz.* p. 301 (? 1818), non descr.

Type, *T. amataria*, Linn.

Range. Nearctic, Palæarctic, Ethiopian, Oriental, and Australian regions.

Palpi not reaching beyond the frons; antennæ of male bipectinated, the apex simple; hind tibiæ of male with two pairs of spurs. Fore wing with the apex acute and produced; vein 3 from near angle of cell; 5 from somewhat above middle of discocellulars; 7, 8, 9 stalked; 10 anastomosing with 8, 9 to form the areole. Hind wing with the outer margin produced to a point at vein 4 veins 6, 7 from angle of cell.

SECT. I. Hind tibiæ of male not dilated; fore wing with vein 11 not anastomosing with 7, 8, 9; hind wing with veins 3, 4 from cell.

3969. **Timandra amataria,** *Linn. Syst. Nat.* i, 2, p. 859.
Timandra convectaria, *Wlk. Cat.* xxiii, p. 800; *Moore, Lep. Ceyl.* iii, pl. 202, figs. 3, 3 *a*; *C. & S.* no. 3991.
Timandra comptaria, *Wlk. Cat.* xxvi, p. 1615.

Pale greyish ochreous, irrorated with fuscous; frons brown; vertex of head white. Fore wing with indistinct, slightly sinuous, antemedial line, not reaching the costa; a cell-speck; an oblique, almost straight line from apex of fore wing to middle of inner margin of hind wing; a sinuous fuscous submarginal line, becoming postmedial on hind wing.

In the European and a Japanese form the oblique line and cilia are pink; in another Japanese, the Chinese, and Indian forms they are red; in the Indian form *convectaria*, the base of costa of fore

wing is fuscous, but not in the Burmese, Chinese, and Japanese forms. Nilgiri specimens are of a bright flesh tint.

Hab. Europe; Japan; China; throughout India, Ceylon, and Burma. *Exp.* 38 millim.

3970. **Timandra correspondens,** n. sp.

Differs from the pale form of *amataria* in the antemedial and oblique lines and cilia of both wings being bright ferruginous, the veins dark; fore wing with the antemedial line straight; the oblique line quite straight; the submarginal line straight on hind wing and towards inner margin of fore wing.

Hab. Dharmsála (*Hocking*). *Exp.* 38 millim. Type in B. M.

3971. **Timandra responsaria,** *Moore, Lep. Atk.* p. 255; *C. & S.* no. 3992.

♀. Fulvous yellow, irrorated with fuscous; frons brown; vertex of head white. Fore wing with traces of antemedial pink line; a dark cell-spot; an oblique diffused pink line from apex of fore wing to middle of inner margin of hind wing; a slightly sinuous ill-defined dark submarginal line, becoming postmedial on hind wing, and reduced to specks towards apex of fore wing; cilia pale pink.

♂. Darker; the oblique band broader and diffused.

Hab. Khásis; Nilgiris. *Exp.* 28 millim.

Sect. II. Hind tibiæ of male dilated with a fold containing a tuft of pink hair and a fringe of long hair on outer side; fore wing with vein 11 anastomosing with 7, 8, 9; hind wing with veins 3, 4 stalked.

A. *Fore wing with the outer margin deeply excised from the apex to vein 4.*

✓ 3972. **Timandra aventiaria,** *Guen. Phal.* ii, p. 3; *Moore, Lep. Ceyl.* iii, pl. 202, figs. 4, 4 *a*.
Timandra molybdias, *Meyr. Trans. Ent. Soc.* 1889, p. 488.

Dull green, with slight dark striæ; head and antennæ rufous. Fore wing with the costa red; traces of antemedial specks; a grey-centred ocellus at end of cell; an oblique olive and yellow straight line from costa of fore wing near apex to middle of inner margin of hind wing, and with traces of a series of specks beyond it; cilia purplish; the margin purple and red at the excision of fore wing; hind wing with white cell-speck. Underside yellow, irrorated with green.

Fig. 206.
Timandra aventiaria, ♂. ½.

Hab. Formosa; throughout India, Ceylon, and Burma; Java Australia. *Exp.* 36 millim.

B. *Fore wing with the outer margin evenly rounded.*

3973. **Timandra mundissima**, *Wlk. Cat.* xxiii, p. 795; *C. & S.* no. 3941.

Timandra semicompleta, *Wlk. Cat.* xxvi, p. 1616; *C. & S.* no. 3993.

Thalera diatomata, *Wlk. Cat.* xxvi, p. 1616; *C. & S.* no. 3478.

Timandra prasodes, *Meyr. P. Linn. Soc. N. S. W.* (2) ii, p. 865.

Timandra burmana, *Swinh. Trans. Ent. Soc.* 1890, p. 214.

Dull green, flesh-colour, or pink, with faint striæ; frons chestnut; vertex of head white. Fore wing with series of antemedial specks and discocellular speck; hind wing with small white-centred discocellular ocellus; an oblique slightly curved line from costa of fore wing beyond middle to middle of inner margin of hind wing, with a series of specks beyond it, which are often obsolescent; this line is often obsolete towards costa of fore wing and may be either whitish ochreous or crimson, and often has purplish suffusion inside it; a crimson speck at end of the point of hind wing, and often a crimson marginal line. Underside pale.

Hab. Abyssinia; throughout India, Ceylon, and Burma; Australia. *Exp.* 26 millim.

Genus TRYGODES.

Trygodes, *Guen. Phal.* i, p. 426 (1857).

Type, *T. muscivaria*, Herr.-Schäff., from S. America.

Range. S. America; throughout India, Ceylon, and Burma; Borneo; Celebes.

Palpi slender, and reaching just beyond the frons; antennæ of male ciliated; hind legs much reduced, the tibiæ dilated with a large tuft of long hair from base and without spurs; abdomen with lateral tufts of hair towards extremity. Fore wing with vein 3 from angle of cell; 5 from somewhat above middle of discocellulars, 7, 8, 9, 10 stalked, 11 anastomosing slightly with them to form the areole. Hind wing with vein 3 from angle of cell; 5 from somewhat above middle of discocellulars.

SECT. I. Both wings with the outer margin highly crenulate and produced to points at all the veins except vein 5.

3974. **Trygodes divisaria**, *Wlk. Cat.* xxiii, p. 927; *C. & S.* no. 4001.

Grey, slightly irrorated with fuscous, and with a violaceous tinge; frons blackish; vertex of head white. Fore wing with the costa rufous; a bright verditer-green subbasal patch below cell and spot above it in cell; a large quadrate patch in end of cell, another from below it to inner margin, and one beyond cell;

a slightly sinuous dark postmedial line terminating at outer angle in a crimson mark; two large quadrate green subapical patches. Hind wing with large quadrate green patch in cell, another below cell extending to inner margin and to near anal angle; a trilobate patch beyond cell; outer area purplish, with some red beyond the green patches; a sinuous postmedial line terminating in a crimson line at anal angle; a crimson subapical line and spot: both wings with dark marginal line. Underside pale, mostly suffused with fuscous.

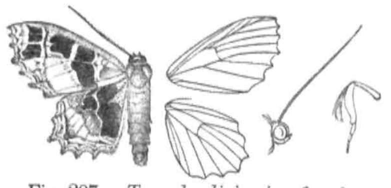

Fig. 207.—*Trygodes divisaria*, ♂. ½.

Hab. Throughout India, Ceylon, and Burma; Andamans; Borneo; Celebes. *Exp.* 40 millim.

SECT. II. Outer margin of fore wing evenly curved, of hind wing slightly crenulate and excised between veins 4 and 6.

3975. **Trygodes cuneilinea**, *Wlk. Cat.* xxvi, p. 1752; *C. & S.* no. 3434.

♂. Pale grey, irrorated with rufous. Fore wing with slightly sinuous antemedial rufous line; both wings with large olive-green spots in the interspaces beyond and below the end of the cell; a highly curved postmedial rufous line; a submarginal line slightly excurved between veins 6 and 2, and with a dentate line beyond it sending streaks along the veins to the margin, and enclosing a grey patch at outer angle of fore wing; a marginal rufous line, double on the hind wing. Underside white.

Hab. "India." *Exp.* 32 millim.

Genus **PROBLEPSIS**.

Problepsis, *Led. Verh. zool.-bot. Ges. Wien*, 1852, *Abh.* p. 74.
Caloptera, *Friv. Magyar Tesm.-tudm. Tars. Evk*, i, p. 185 (1841–45), præocc.
Argyris, *Guen. Phal.* ii, p. 12 (1857).

Type, *P. ocellata*, Friv., from E. Europe.

Range. E. Europe; Natal; Japan; China; throughout India, Ceylon, and Burma; Borneo.

Palpi thickly scaled and reaching just beyond the frons; hind leg of male small, the tibia dilated with a fold containing a tuft of long hair, the 1st joint of tarsus dilated and large. Fore wing with vein 3 from, or from before, angle of cell; 5 from somewhat above middle of discocellulars; 7, 8, 9, 10 stalked from before upper angle, 11 anastomosing slightly with them to form the areole. Hind wing from vein 3 from, or from before, angle of cell; 5 from somewhat above middle of discocellulars; 6 from before upper angle.

SECT. I. Antennæ of male bipectinated, with stiff branches, the apex simple.

3976. **Problepsis deliaria**, *Guen. Phal.* ii, p. 13; *C. & S.* no. 1259.
Problepsis appollinaria, *Butl. Ill. Het.* vii, p. 7 (*nec Guen.*).

Nearly pure white; sides of palpi and vertex of head black; abdomen tinged with fuscous. Fore wing with the costa fuscous; a large olive oval ocellus at end of cell, with a ring of raised silver scales on it, the centre grey, and two black specks below the centre; below the ocellus is a silver-ringed fulvous spot; a silver fascia on inner margin; hind wing with an elongate oval fuscous mark on discocellulars and below cell, with a ring of silver scales on it; a silver fascia on inner margin; both wings with waved and curved fuscous postmedial band, with a more prominent maculate band beyond it, and a series of spots just inside the margin; a marginal fuscous line and a line through the cilia.

The Kúlú form has the edges of the ocellus of both wings fulvous, the ocellus on fore wing being much rounder.

Hab. Throughout India, Ceylon, and Burma. *Exp.* 46 millim.

3977. **Problepsis delphiaria**, *Guen. Phal.* ii, p. 14; *C. & S.* no. 1260.
Problepsis vulgaris, *Butl. Ill. Het.* vii, p. 43, pl. 125, fig. 2.
Argyris ocellata, *C. & S.* no. 1263 (*nec Friv.*).

Differs from *deliaria* in the ocellus of fore wing having black on its outer ring, especially on the inner side; the spot below it darker; no silver fascia on inner margin of either wing, but a few scales on fore wing and a medial spot on hind wing; the postmedial curved band fulvous.

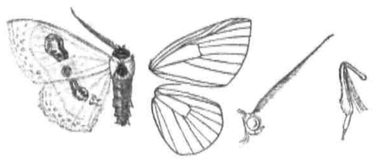
Fig. 208.—*Problepsis delphiaria*, ♂. ½.

Hab. Hongkong; throughout India, Ceylon, and Burma. *Exp.*, ♂ 34, ♀ 40 millim.

3978. **Problepsis cinerea**, *Butl. P. Z. S.* 1886, p. 387, pl. 35, fig. 8.

Pale ashy brown; head blackish. Fore wing with some fuscous basal marks; an antemedial line angled below cell; a very large brown discal ocellus, with fuscous outer ring, silver inner ring, whitish centre, and two black marks with silver scales on them below the centre; some fuscous marks below the ocellus; hind wing with a similar ocellus extending to inner margin, but without the black marks below centre; both wings with a slightly curved postmedial line angled below the costa of fore wing, with a series of spots beyond it, a line beyond that, and a marginal line.

Hab. Campbellpur. *Exp.* 36 millim.

SECT. II. Antennæ of male with fascicles of cilia.

3979. **Problepsis conjunctiva,** *Warr. P. Z. S.* 1893, p. 358.

♂. White; head and abdomen fuscous. Fore wing with the costa fuscous; a very large discal ocellus, its outer ring fuscous interiorly, fulvous exteriorly, inside this is a silver ring, the centre grey and brown, with two black marks below the centre; a fuscous band from the ocellus to the middle of inner margin of hind wing expanding on disk, with a silver discocellular band and brown and silver incomplete ocellus on it; both wings with silver fascia on inner margin; a pale fulvous postmedial band, excurved and somewhat irregular on fore wing, and with fuscous spots beyond it on both wings. Underside with wide fuscous medial band, expanding into discal patches and a curved postmedial band.

Hab. Sikhim. *Exp.* 40 millim.

Genus SOMATINA.

Somatina, *Guen. Phal.* ii, p. 10 (1857).
Nobilia, *Wlk. Cat.* xxiv, p. 1098 (1862).
Dithalama, *Meyr. P. Linn. Soc. N. S. W.* (2) ii, p. 840 (1887).
Lipomelia, *Warr. P. Z. S.* 1893, p. 359.
Defoa, *Swinh. A. M. N. H.* (6) xii, p. 151.

Type, *S. anthophilata*, Guen.

Range. S. Africa; W. Africa; Japan; China; throughout India, Ceylon, and Burma; Borneo; Australia.

Differs from *Problepsis* in the antennæ of male usually being ciliated. Fore wing with vein 10 rising from 7, 8, 9, anastomosing with 11, and then with 8, 9 to form a double areole.

SECT. I. Antennæ of male with fascicles of cilia.

3980. **Somatina cana,** n. sp.

White; the frons fuscous. Wings irrorated with a few fuscous scales. Fore wing with traces of a waved antemedial line; a large irregular rufous and fuscous ocellus at end of cell, with a ring of bluish-silver scales on it; hind wing with a fulvous and silver line on discocellulars; both wings with a curved and slightly sinuous postmedial series of black specks, with a series of fuscous spots beyond them, and another series just inside the margin; a marginal series of black striæ.

Hab. Punjab; Ceylon; Baudin Isl., N.W. coast of Australia. *Exp.* 30 millim. Type in B. M.

3981. **Somatina extrusata,** *Wlk. Cat.* xxii, p. 637; *C. & S.* no. 1261.

♀. Differs from *cana* in being grey, with a vinous tinge and irrorated with fuscous; vertex of head white. Fore wing with the ocellus larger and reddish ochreous; hind wing with a band

on discocellulars; both wings with indistinct crenulate postmedial line, and hardly a trace of markings beyond it.

Hab. Simla; Khásis; Ceylon. *Exp.* 32 millim.

SECT. II. Antennæ of male finely ciliated.

A. *Hind leg of male small: the tibia dilated with a fold and large tuft of long hair.*

3982. **Somatina anthophilata**, *Guen. Phal.* ii, p. 11, pl. 18, fig. 2; *C. & S.* no. 3995.

Anisodes congruaria, *Wlk. Char. Undescr. Het.* p. 98; *C. & S.* no. 3563.

Somatina purpurascens, *Moore, Lep. Ceyl.* iii, p. 540, pl. 202, figs. 2, 2 *a*; *C. & S.* no. 3998.

White, with slight rufous and fuscous suffusion; head blackish. Fore wing with the costa ferruginous; a medial sinuous line angled below costa, with another line beyond it produced to points

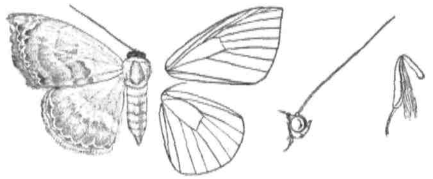

Fig. 209.—*Somatina anthophilata*, ♂. 1/1.

beyond the angles of cell and approaching the medial line below the cell, the area between them usually tinged with rufous and with a cell-spot; a submarginal waved line produced to a point below costa, then usually obsolescent, the area beyond it rufous as far as the marginal rufous band of triangular marks, which does not extend to the costa. Hind wing with cell-speck and traces of waved medial and postmedial line; the outer area rufous, with marginal series of triangular rufous marks.

The form *purpurascens* is whiter, with the medial band of fore wing narrower and the submarginal line more prominent.

Hab. Throughout India, Ceylon, and Burma. *Exp.*, ♂ 34, ♀ 36 millim.

3983. **Somatina plynusaria**, *Wlk. Cat.* xxvi, p. 1581; *C. & S.* no. 3997.

Grey, prominently irrorated with fuscous and with a rosy suffusion; head blackish. Fore wing with the costa rufous; indistinct waved antemedial, postmedial, and submarginal lines, the second irregular and produced to a point below costa; a black cell-speck; fuscous patches at apex and outer angle. Hind wing with cell-speck, medial and postmedial indistinct waved lines; both wings with marginal series of specks and the cilia bright rufous.

Hab. Sikhim; Assam; Nilgiris; Canara. *Exp.*, ♂ 36, ♀ 40 millim.

3984. **Somatina lapidata,** *Warr. P. Z. S.* 1893, p. 359, pl. 32, fig. 7.

♀. Differs from *plynusaria* in having the head and collar fulvous; wings with an olive tinge instead of rosy; the costa of fore wing and cilia of both wings not rufous; the lines very indistinct; the medial line not waved; the outer area of fore wing suffused with olive, of hind wing thickly striated with fuscous. Underside with prominent minutely waved dark postmedial line, the outer area of fore wing dark grey.

Hab. Nágas. *Exp.* 34 millim.

3985. **Somatina rosacea,** *Swinh. Trans. Ent. Soc.* 1894, p. 182.

♂. Head, thorax, and abdomen cream-colour, with a slight rosy tinge; wings suffused with rosy pink as far as the postmedial line, where the colour deepens to rufous; the postmedial line arises from middle of costa of fore wing, is then much excurved and slightly waved, on hind wing slightly waved towards inner margin, the area beyond it pale rufous, with indistinct submarginal line and a series of marginal specks; both wings with minute black cell-speck; fore wing with black spot near outer angle.

Hab. Khásis. *Exp.* 30 millim.

3986. **Somatina subusta,** *Warr. P. Z. S.* 1893, p. 360, pl. 32, fig. 24.
Defoa ustata, *Swinh. A. M. N. H.* (6) xii, p. 151.

Olive-brown; the head blackish. Fore wing with the area from near base to the irregularly waved postmedial line, which does not reach the costa, rufous with indistinct pale line and a white cell-speck on it; the medial line obsolete towards costa, and with a large purple patch beyond it running out to the margin at vein 3 and leaving the apex and outer angle olive-brown. Hind wing rufous, with diffused fuscous antemedial and medial dark bands and a sinuous submarginal grey line produced to two points at middle; the margin grey. Underside with most of the inner half of fore wing and costal area of hind wing suffused with fuscous.

Hab. Sikhim; Khásis; Nágas; Karen Hills. *Exp.* 30 millim.

B. (Nobilia). *Hind tibia of male shortened, and with the tuft from its base short; the first joint of tarsus long, dilated, and with a fold containing a tuft of hair.*

3987. **Somatina turbata,** *Wlk. Cat.* xxiv, p. 1098; *C. & S.* no. 3685.

Head, thorax, and abdomen olive grey-brown; frons rufous. Fore wing with the costa, base, and medial area olive-grey; a large antemedial triangular patch, a discocellular lunule, and the outer area except at costa dark chocolate-red, striated with grey; a waved submarginal grey line bent out to the margin from veins 4 to 2. Hind wing chocolate-red, thickly irrorated with grey; a white cell-spot; traces of a medial line; a crenulate postmedial line;

a submarginal sinuous line bent out to the margin at middle, and with grey beyond it from vein 4 to anal angle. Underside reddish orange.

Hab. Sikhim; Assam; Andamans; Borneo. *Exp.* 46 millim.

SECT. III. Antennæ of male bipectinated to near apex; hind tibia not dilated, but with a tuft of long hair from base; fore wing with the apex more produced.

3988. **Somatina lunuliferata**, *Wlk. Cat.* xxvi, p. 1522; *Hmpsn. Ill. Het.* viii, pl. 142, figs. 1, 5; *C. & S.* no. 3225.

♂. Grey-brown; head blackish. Fore wing with the costa rufous; a waved antemedial line not reaching costa; a large discal brown ocellus with blue-grey central lunule; an irregularly waved postmedial line with a more dentate line beyond it, prominent from vein 6 to inner margin, which it reaches near outer angle; an irregularly dentate pale submarginal line. Hind wing suffused with dark chocolate; an indistinct waved antemedial line; a grey line on discocellulars; a minutely dentate postmedial line, with a series of pale grey-edged lunulate marks beyond it from vein 5 to inner margin; both wings with slender grey line just inside the margin; the cilia bright rufous. Underside fuscous, with the costal area of fore wing bright red.

♀ much redder and pinker.

Hab. Canara; Nilgiris. *Exp.*, ♂ 42, ♀ 48 millim.

Subfamily GEOMETRINÆ.

Fore wing with vein 5 from towards upper angle of cell; 7, 8, 9, 10 stalked, and often 6 and 11 with them, the latter often anastomosing with 12, but no areole ever present. Hind wing with vein 5 from towards upper angle of cell; 8 bent down and touching the cell near base, then rapidly diverging.

Key to the Genera.

A. Fore wing with a fovea at base in both sexes, and the antennæ bipectinated .. 1. EUSCHEMA, p. 467.
B. Fore wing without fovea.
  a. Abdomen with dorsal tufts.
    a'. Hind wing with the outer margin rounded.
      a². Both wings with vein 3 from near angle of cell; hind wing long .. 2. PSEUDOTERPNA, p. 472.
      b². Both wings with vein 3 from long before angle of cell; hind wing short .... 3. SPHAGNODELA, p. 480.
    b'. Hind wing with the outer margin produced to a point or angled at vein 4 *.

* Except in *Uliocnemis casidara* and *albimarginata*.

a^{2}. Outer margin of neither wing crenulate.
a^{3}. Hind wing with veins 3, 4 from cell.
a^{4}. Hind wing with veins 6, 7 from cell .... 6. AGATHIA, p. 485.
b^{4}. Hind wing with veins 6, 7 stalked.................. 7. ULIOCNEMIS, p. 487.
Hind wing with veins 3, 4 stalked .... 8. HEMITHEA, p. 490.
b^{2}. Outer margin of both wings crenulate.
a^{3}. Frons not produced.......... 5. CHLORODONTOPERA, [p. 482.
b^{3}. Frons with a rounded prominence .... 4. XENOZANCLA, p. 481.
b. Abdomen without dorsal tufts.
a'. Hind wing with the outer margin produced to a tail at vein 4.
a^{2}. Frenulum present; both wings with veins 3, 4 stalked........ 15. MAXATES, p. 505.
b^{2}. Frenulum absent; both wings with veins 3, 4 from cell ...... 16. PARAMAXATES, p. 506.
b'. Hind wing with the outer margin produced to a point or angled at vein 4.
a^{2}. Frenulum present.
a^{3}. Frons with a sharp tuft...... 10. APORANDRIA, p. 494.
b^{3}. Frons smooth .... 17. THALASSODES, p. 507.
b^{2}. Frenulum absent.............. 18. THALERA, p. 514.
c'. Hind wing with the outer margin rounded.
a^{2}. Fore wing with the apex produced and acute. Stoutly built moths .... 9. TANAORRHINUS, p. 492.
b^{2}. Fore wing with the apex not produced.
a^{3}. Frenulum present.
a^{4}. Hind wing with veins 3, 4 from cell................ 11. GEOMETRA, p. 495.
b^{4}. Hind wing with veins 3, 4 stalked .... 13. NEMORIA, p. 501.
b^{3}. Frenulum absent.
a^{4}. Hind wing with veins 3, 4 from cell .... 12. EUCHLORIS, p. 497.
b^{4}. Hind wing with veins 3, 4 stalked .... 14. EUCROSTES, p. 504.

Genus **EUSCHEMA**.

Euschema, *Hübn. Verz.* p. 175 (? 1818).
Cusuma, *Moore, P. Z. S.* 1879, p. 415.

Type, *E. militaris*, Linn.

Range. Oriental and Australian regions.

Palpi obliquely porrect, the 2nd joint thickly clothed with hair and reaching beyond the frons, which is rounded, the 3rd long;

antennæ bipectinated, with short branches in both sexes; hind tibiæ of male long, much dilated, and with a ridge along upperside containing a large tuft of hair and ending in a process at extremity; abdomen of male clothed with short thick pile below and at sides. Fore wing with a fovea above the base of vein 1 in both sexes, the membrane in it strongly ridged in male; vein 3 from before angle of cell; 5 from near upper angle; 6, 7, 8, 9, 10 stalked; 11 anastomosing with 12, then approaching 10. Hind wing with vein 3 from before angle of cell; 5 from near upper angle; 7 from before the angle.

SECT. I. (*Euschema*). Fore wing of male produced, long, and narrow; the fovea strongly developed.

3989. **Euschema militaris**, *Linn. Syst. Nat.* i, 2, p. 811; *Cram. Pap. Exot.* i, pl. 29, fig. B; *C. & S.* no. 3084.
Euschema abrupta, *Wlk. Trans. Ent. Soc.* (3) i, p. 70; *C. & S.* no. 3073.
Euschema excubitor, *Moore, P. Z. S.* 1878, p. 846; *C. & S.* no. 3080.
Euschema sodalis, *Moore, J. A. S. B.* lv, 1886, pt. 2, p. 99; *C. & S.* no. 3089.
Euschema scyllea, *Swinh. A. M. N. H.* (6) xii, p. 148.

Head, thorax, and abdomen golden yellow with purplish bands. Fore wing with the basal half golden yellow, the outer half deep

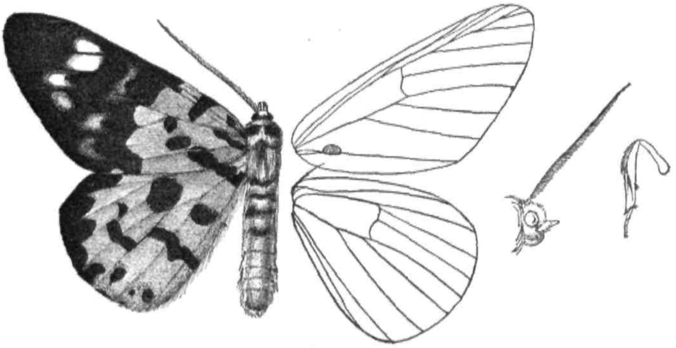

Fig. 210.—*Euschema militaris*, ♂. ½.

purple with its inner edge irregularly sinuous; two oblique basal purple fasciæ, the lower fascia sometimes having a spot detached from it; two spots on costa near base; an oblique antemedial series of three spots often conjoined; outer area with two pale blue maculate bands, the outer ending at vein 3. Hind wing golden yellow, with a large purple discocellular spot and a spot below the cell; a postmedial lunulate band excurved between veins 3 and 5; a submarginal series of spots becoming large conjoined lunulate patches at apex.

The spots on the yellow area are very variable. The form *scyllea* has the dark markings on the basal half of fore wing almost entirely

obsolete; and on hind wing obsolete, except the apical markings and some submarginal spots.

Hab. China; Sikhim; Assam; Burma; Mergui; Andamans; Sumatra; Java. *Exp.* 80–96 millim.

3990. **Euschema bellona**, *Wlk. Cat.* ii, p. 405; *C. & S.* no. 3078.

Euschema lunulata, *Butl. A. M. N. H.* (5) x, p. 375; *C. & S.* no. 3082.

Euschema rœpstorfii, *Moore, P. Z. S.* 1877, p. 600.

Euschema andersoni, *Moore, Journ. Linn. Soc., Zool.* xxi, p. 56; *C. & S.* no. 3075.

Euschema ludifica, *Swinh. Trans. Ent. Soc.* 1890, p. 202.

Differs from *militaris* in the outer area of the fore wing having the pale blue maculate bands more or less reduced and obscure; hind wing with the outer area deep purple, with irregularly sinuous inner edge, with a short yellow band on it from inner margin to vein 2, sometimes continued towards costa as indistinct pale blue spots with yellow specks on their edges, or in the form *lunulata* as a broken waved yellow band.

The form *andersoni*, from Mergui, has the pale markings on outer area of fore wing almost obsolete; the dark basal markings reduced or almost obsolete; hind wing with the basal third and spots at end of cell much reduced; the yellow spots on outer area wanting or very small.

Hab. Burma; Mergui; Andamans; Nicobars. *Exp.* 64–92 millim.

3991. **Euschema bellonaria**, *Guen. Phal.* ii, p. 193, pl. 18, fig. 1.

Euschema subrepleta, *Wlk. Cat.* ii, p. 406; *C. & S.* no. 3090.

Differs from *militaris* in being deeper orange; fore wing with the lower basal fascia conjoined to the antemedial band and touching the outer purple area. Hind wing with the discocellular spot conjoined to the spot below cell; the postmedial band more strongly developed, also the submarginal spots, which are triangular and more regular; the marginal lunules large.

Hab. Mergui; Malacca; Borneo. *Exp.* 80 millim.

3992. **Euschema prunicolor**, *Moore, Lep. Ceyl.* iii, p. 423, pl. 189, fig. 2; *C. & S.* no. 3088.

Euschema bellissima, *Moore, Lep. Ceyl.* iii, p. 423, pl. 189, figs. 1, 1 *a*, *b* (larva); *C. & S.* no. 3077.

Differs from *bellonaria* in the head, thorax, and abdomen being purple with yellow bands. Fore wing purple, with two narrow basal yellow fasciæ and a spot in interno-median interspace; a pale blue spot in cell and the antemedial oblique band blue. Hind wing with the yellow markings reduced to an oblique subbasal band and medial, postmedial, and submarginal series of spots.

The form *bellissima* has the yellow markings rather more developed than in typical *prunicolor*.

Larva. Green, with a lateral yellow band; the spiracles black-ringed; the legs red-speckled. Food-plant *Carallia*.

Hab. Ceylon. *Exp.* 70 millim.

3993. **Euschema andamana**, *Moore, P. Z. S.* 1877, p. 599; *Waterh. Aid*, i, pl. xi; *C. & S.* no. 3074.

Deep purple; the underside of head, thorax, and abdomen golden yellow. Fore wing with very broad oblique antemedial golden-yellow band with somewhat irregular edges and not quite reaching costa or inner margin; a large pale blue patch beyond cell with indistinct spots below it. Hind wing uniform purple, or in some specimens with a yellow patch on middle of costa and a spot beyond cell. Underside of both wings with the large cell-spots and curved postmedial bands traceable.

Hab. Andamans. *Exp.* 84 millim.

3994. **Euschema minervaria**, *Guen. Phal.* ii, p. 190.

Hazis pugnataria, *Guen. Phal.* ii, p. 194.

Euschema horsfieldii, *Moore, Lep. E. I. Co.* p. 334, pl. 8 *a*, fig. 7; *C. & S.* no. 3081.

Euschema patula, *Wlk. Cat.* xxxi, p. 175.

♀. Head and thorax blue-grey, with deep purple bands; abdomen golden yellow, with purplish bands. Fore wing somewhat broad and round; blue-grey with two basal purple fasciæ, a curved antemedial band with two elongate spots on it below cell; a large discocellular patch; an irregularly sinuous postmedial band; a marginal series of blotches conjoined into a patch at apex; the inner area with more or less yellow on its outer half. Hind wing golden yellow, with blue-grey on basal costal area; a large discocellular purple patch and small spot below cell; a postmedial series of lunulate spots and another series of rounded spots just inside the margin, both these series being sometimes obsolescent towards inner margin.

Hab. E. Pegu; Tenasserim; Tavoy; Cambodia; Java. *Exp.* 90 millim.

3995. **Euschema aurilimbata**, *Moore, P. Z. S.* 1878, p. 846; *C. & S.* no. 3076.

♂. Head yellow with dark bands; thorax blue with deep purple bands; abdomen golden yellow with purplish bands, the base greyish. Fore wing pale metallic blue with deep purple markings, as in *minervaria*. Hind wing pale metallic blue; the inner and outer areas golden yellow, a prominent sinuous postmedial band excurved at middle being developed.

Hab. Tenasserim; Tavoy; Mergui. *Exp.* 90 millim.

3996. **Euschema palmyra**, *Stoll, Cram. Pap. Exot.* v, p. 159, pl. 36, fig. 1; *C. & S.* no. 3086.

Euschema transversa, *Wlk. Cat.* ii, p. 407; *Moore, Lep. Ceyl.* iii, pl. 189, figs. 3, 3 *a* (larva); *C. & S.* no. 3091.

Euschema nelera, *Swinh. Trans. Ent. Soc.* 1891, p. 141.

Differs from *aurilimbata* in the abdomen being but slightly yellow at extremity; wings paler blue; hind wing without any yellow, or in the form *nelera* from the Bombay Presidency usually with slight traces of yellow on outer margin near anal angle.

Larva yellow; the thoracic segments spotted with black; black-spotted bluish dorsal and sublateral bands from somites 4 to 11. Food-plant *Carallia integerrima*.

Hab. Khandála; Matheran; Canara; Ceylon. *Exp.*, ♂ 78, ♀ 78–90 millim.

3997. **Euschema percota**, *Swinh. Trans. Ent. Soc.* 1891, p. 142.

Differs from *palmyra* in the whole apical area of fore wing being deep purple from the discocellular spot and postmedial line to outer margin, with two small blue spots below the subcostals and one on inner margin near outer angle. Hind wing never with any trace of yellow.

Hab. Western Ghâts, from Bombay to Trevandrum. *Exp.*, ♂ 90, ♀ 96 millim.

3998. **Euschema recessa**, *Wlk. Journ. Linn. Soc.* vi, p. 95.
Euschema proba, *Butl. A. M. N. H.* (5) vi, p. 120; *id. Ill. Het.* vi, pl. 113, fig. 2; *C. & S.* no. 3087.

Differs from *palmyra* in all the deep purple markings being reduced. Fore wing with the costa pale blue, and pale blue extending along the veins of outer area on both wings to the margins; head without any yellow; abdomen with more yellow at extremity.

Hab. Sikhim; Borneo. *Exp.*, ♂ 72, ♀ 78 millim.

SECT. II. (*Cusuma*). Fore wing shorter and broader in both sexes; the fovea slightly developed.

3999. **Euschema vilis**, *Wlk. Cat.* ii, p. 408; *Moore, Lep. Ceyl.* iii, pl. 189, fig. 4; *C. & S.* no. 3093.
Cusuma limbata, *Moore, P. Z. S.* 1879, p. 415; *id. Lep. Ceyl.* iii, pl. 189, fig. 5; *C. & S.* no. 3092.

♂. Head and thorax purplish brown above; abdomen golden yellow with purplish bands. Fore wing purplish brown, with slight oblique dark streak in cell; a hyaline spot at its extremity curved and extending below the median nervure; a spot beyond upper angle of cell and curved submarginal maculate band. Hind wing golden yellow; a dark speck on discocellulars; the outer area purplish brown, with irregularly sinuous inner edge.

♀ with irregularly waved orange line on outer area of hind wing, produced near anal angle as streaks and spots to the margin.

Hab. Ceylon. *Exp.* 62 millim.

4000. **Euschema flavifusa**, *Hmpsn. Ill. Het.* ix, p. 144, pl. 168, fig. 17.

Differs from *vilis* in the dark areas being suffused with golden yellow. Hind wing with the yellow area a dull golden colour; a waved band on outer area. Underside wholly suffused with a dull golden colour.

Hab. Ceylon. *Exp.* 62 millim.

Genus PSEUDOTERPNA.

Pseudoterpna, *Hübn Verz.* p. 284 (? 1818).
Hypochroma, *Guen. Phal.* i, p. 275 (1857).
Pachyodes, *Guen. Phal.* i, p. 282.
Pingasa, *Moore, Lep. Ceyl.* iii, p. 419 (1887).
Dindica, *Moore, Lep. Atk.* p. 248 (1888).
Actenochroma, *Warr. P. Z. S.* 1893, p. 350.
Perissolophia, *Warr. P. Z. S.* 1893, p. 350.
Herochroma, *Swinh. A. M. N. H.* (6) xii, p. 148 (1893).
Absala, *Swinh. A. M. N. H.* (6) xii, p. 149.
Calleremites, *Warr. Nov. Zool.* p. 384 (1894).
Psilotagma, *Warr. Nov. Zool.* p. 678.

Type, *P. pruinata*, Hüfn., from Europe.

Range. Palæarctic, Ethiopian, Oriental, and Australian regions.

Palpi porrect, the 2nd joint clothed with hair and reaching beyond the sharp frontal tuft, the 3rd naked and varying in length; hind tibiæ of male usually dilated and typically ending in a slight

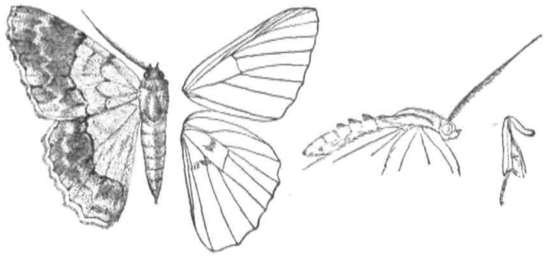

Fig. 211.—*Pseudoterpna ruginaria*, ♂. ½.

process on upperside and with a fold containing a tuft of long hair the two pairs of spurs short; abdomen with short spreading dorsal tufts on medial segments; both wings with the margin usually crenulate. Fore wing with vein 3 from near angle of cell; vein 5 from below upper angle; 6 from angle; 7, 8, 9, 10 stalked; 11 free or anastomosing with 12. Hind wing long; vein 3 from angle of cell; 5 from near upper angle; 7 from before angle.

SECT. I. (*Hypochroma*). Antennæ of male bipectinated, with short branches to two-thirds length.

A. *Hind wing with some tufts of long hair at and below end of cell on upperside.*

4001. **Pseudoterpna ruginaria**, *Guen. Phal.* i, p. 278; *C. & S.* no. 3381.
Hypochroma communicans, *Wlk. Cat.* xxi, p. 430.
Hypochroma commutata, *Wlk. Cat.* xxi, p. 429.
Hypochroma perfectaria, *Wlk. Cat.* xxi, p. 434; *C. & S.* no. 3388.
Hypochroma nyctemerata, *Wlk. Cat.* xxi, p. 444; *C. & S.* no. 3387.
Pingasia rufofasciata, *Moore, Lep. Atk.* p. 247; *C. & S.* no. 3380.
Pingasa rubicunda, *Warr. Nov. Zool.* p. 383.

White, slightly irrorated with fuscous, and tinged with olive-

green or grey; frons with a black band. Fore wing with crenulate antemedial line; a sinuous postmedial line excurved from veins 4 to 2 and sending short streaks along the veins, the area beyond it suffused with brown, olive, or in the form *rufofasciata* with pink, this form being also more irrorated with fuscous; a crenulate submarginal white line; a pale patch on middle of outer area; a fine marginal black line. Hind wing similar, but without the antemedial waved line. Underside white; the basal half of wings suffused with yellow; the outer area black, with patches of white on the outer margin; fore wing with a black band on discocellulars.

Some specimens are almost as white as the following species.

Hab. W. Africa; Kilima-njaro; Natal; Formosa; throughout India; Borneo. *Exp.* 46 millim.

4002. **Pseudoterpna chlora,** *Cram. Pap. Exot.* iv, pl. 398, fig. C.
Hypochroma crenaria, *Guen. Phal.* i, p. 278; *Moore, Lep. Ceyl.* iii, pl. 192, figs. 1 *a, b* (larva); *C. & S.* no. 3376.
Hypochroma distenta, *Wlk. Cat.* xxi, p. 434; *C. & S.* no. 3385.
Hypochroma lariaria, *Wlk. Cat.* xxi, p. 433.
Boarmia leucostigmaria, *Nietn. Edinb. New Phil. Journ.* xv, 1862, p. 387; *C. & S.* no. 3378.
Hypochroma irrorataria, *Moore, P. Z. S.* 1867, p. 632; *C. & S.* no. 3377.
Hypochroma sublimbata, *Butl. A. M. N. H.* (5) x, p. 232.

Differs from *ruginaria* in being whiter; the outer area not suffused, or very slightly suffused, with pink; the postmedial line regularly crenulate. Underside without or with hardly a trace of yellow at base of wings; the outer black band narrower.

Larva olive-green, with purple-brown oblique lateral stripes and a longitudinal sublateral line. *Pupa* red-brown, with black speckles and segmental marks.

Hab. Throughout India, Ceylon, and Burma; Nias Island; Java; N. Australia; Duke of York Island. *Exp.*, ♂ 44, ♀ 54 millim.

4003. **Pseudoterpna tephrosiaria,** *Guen. Phal.* i, p. 277; *C. & S.* no. 3392.
Hypochroma pseudoterpnaria, *C. & S.* no. 3390 (*nec Guen.*).

Differs from *chlora* in being uniformly and much more irrorated with fuscous. Underside without traces of yellow, but with a grey tinge; the submarginal band fuscous, much reduced, and narrow.

Hab. N.W. Himalayas. *Exp.* 50 millim.

4004. **Pseudoterpna dispensata,** *Wlk. Cat.* xxi, p. 435; *C. & S.* no. 3384.
Hypochroma celata, *Wlk. Cat.* xxxv, p. 1593.

Differs from *tephrosaria* in being smaller and somewhat whiter; the underside pure white, with the band black and often reduced to patches.

Hab. Jubbulpore; Karáchi; Mhow; Java; Philippines. *Exp.* 40 millim.

4005. **Pseudoterpna alba,** *Swinh. Trans. Ent. Soc.* 1891, p. 491, pl. 19, fig. 6.

♂. Differs from *chlora* in being uniform almost pure white, with very slight fuscous irroration, and with no suffusion beyond the postmedial line on upperside, on underside with slight fuscous suffusion towards costa of fore wing.

Hab. Khásis. *Exp.* 50 millim.

4006. **Pseudoterpna venusta,** *Warr. Nov. Zool.* p. 384.

♂. Clothed with grey, olive-green, orange, and black scales. Fore wing with black-speckled white medial band, with waved black inner edge, black band on discocellulars, and curved black outer edge sending short streaks along the veins; the waved submarginal line indistinct, with orange scales on it, and crossed by orange streaks on the veins. Hind wing similar, without the medial white band; the postmedial line crenulate, and with much orange suffusion beyond it. Underside white; the base of wings suffused with yellow; the very broad black outer area with patches of white on the margin. Fore wing with discocellular black band.

Hab. Sikhim; Khásis. *Exp.* 52 millim.

B. (Pseudoterpna). *Hind wing without tufts of hair near lower angle of cell.*

4007. **Pseudoterpna costistrigaria,** *Moore, P. Z. S.* 1867, p. 633; *C. & S.* no. 3375.

♂. Grey-green, striated with black-brown; frons with a black band. Fore wing with indistinct subbasal line; waved antemedial line; the medial area much striated with brown, especially on costa, and with a discocellular lunule; the crenulate postmedial line bent outwards, and with white scales beyond it below costa; patches of brown striæ on costa before apex, on outer margin below apex, and on inner margin near outer angle. Hind wing with brown striæ at base; a dark discocellular spot; the crenulate postmedial line indistinct. Underside as in *venusta*.

Hab. Sikhim; Khásis. *Exp.* 52 millim.

4008. **Pseudoterpna erionoma,** *Swinh. A. M. N. H.* (6) xii, p. 219.

♂. Grey and pale pink, almost entirely covered with dark olive-green striæ and suffusion; the vertex of head pale. Fore wing with two indistinct oblique subbasal lines; a discocellular lunule; the crenulate postmedial line excurved between veins 3 and 5, and with dark blue-grey suffusion on its outer edge; traces of a waved white submarginal line with some red on it; a white patch on outer margin below apex. Hind wing with black mark on discocellulars; a postmedial crenulate line highly angled at vein 4, and with blue-grey suffusion on its outer edge; patches of red on the indistinct submarginal line. Underside pure white, with black

cell-spots and broad black submarginal band diffused outwards to margin below apex of each wing.

Hab. Sikhim; Khásis. *Exp.* 42–46 millim.

4009. **Pseudoterpna varicoloraria,** *Moore, P. Z. S.* 1867, p. 633; *C. & S.* no. 3393.

♂. Differs from *erionoma* in the ground-colour being pale pinkish, with numerous sap-green striæ and patches; the antemedial line of fore wing and postmedial line of both wings dark purple, with grey edges. Underside yellowish white, with the postmedial black band narrow and obsolescent.

Hab. Sikhim. *Exp.* 56 millim.

4010. **Pseudoterpna vigens,** *Butl. A. M. N. H.* (5) vi, p. 127; *id. Ill. Het.* vi, pl. 116, fig. 3; *C. & S.* no. 3383.

♂. Differs from *erionoma* in being almost entirely green, with dark striæ and none of the pink and grey ground-colour. Fore wing with sinuous antemedial line, instead of the second subbasal line; both wings without blue-grey on the postmedial line. Underside ochreous white.

Hab. Sikhim; Khásis. *Exp.* 52 millim.

4011. **Pseudoterpna opalina,** *Warr. P. Z. S.* 1893, p. 349, pl. 32, fig. 14.

♀. Olive-green, irrorated with bright purple; frons pinkish; thorax with grey bands. Fore wing suffused with grey on basal and subcostal areas; a waved antemedial line and crenulate postmedial line excurved beyond cell; a large dark-edged cell-spot; the marginal area of each wing only irrorated with purple on the veins. Underside grey; the base of wings orange, with purple suffusion beyond it; the cell-spots purple.

Hab. Sikhim. *Exp.* 58 millim.

4012. **Pseudoterpna similis,** *Moore, Lep. Atk.* p. 248; *C. & S.* no. 3382.

Pachyodes ruficosta, *Hmpsn. Ill. Het.* viii, p. 108, pl. 150, fig. 16.

Grey, thickly irrorated with olive-green; the frons dark rufous; abdomen with the base and dorsal tufts dark rufous, a black line on each side of the tufts. Fore wing with the base and costa rufous; subbasal and antemedial waved lines; a discocellular lunule; a crenulate postmedial line excurved beyond the cell and incurved below vein 3; the waved submarginal line very indistinct, with rufous striæ on it and a patch above inner margin; an olive patch on outer margin below apex. Hind wing with discocellular streak; a postmedial crenulate line highly angled on vein 4; the indistinct submarginal line prominently marked with red. Underside whitish, with orange at the base of wings; prominent black cell-spots and diffused obsolescent submarginal black band.

Hab. Sikhim; Khásis; Bombay; Nilgiris. *Exp.* 46–52 millim.

4013. **Pseudoterpna hæmataria,** *Herr.-Schäff. Samml. aussereur. Schmett.* figs. 205, 206; *C. & S.* no. 3395.
Pachyodes almaria, *Guen. Phal.* i, p. 282.

White; frons with a black band; head, thorax, and abdomen slightly suffused with ochreous; wings with a few brown striæ. Fore wing with two oblique subbasal lines; the 2nd with prominent dark brown striæ extending along the costa to the indistinct crenulate postmedial line; a discocellular black line; a large pale brown apical patch, with dark brown striæ on it; traces of a waved white submarginal line with olive-yellow patches beyond it above outer angle, and inside it on inner margin; a series of black marginal strigæ. Hind wing with black discocellular line; crenulate postmedial line almost obsolete, except at costa and inner margin; traces of a waved white submarginal line, with olive-yellow patches on it, especially at anal angle, and a black spot below vein 3; a marginal series of black strigæ. Underside white, with the thorax and base of wings yellow; large black discocellular spots. Fore wing with three conjoined black spots beyond cell and one on vein 2; a large apical black patch; hind wing with postmedial black spot on costa, and four submarginal black spots.

Hab. Sikhim. *Exp.* 62 millim.

4014. **Pseudoterpna ornataria,** *Moore, Lep. Atk.* p. 249; *C. & S.* no. 3396.

♂. Differs from *hæmataria* in having some pink on vertex of head, thorax, and abdomen, which has paired black dorsal striæ. Fore wing with the brown striation beyond the subbasal line slighter and on a pink ground; the postmedial line and apical patch almost obsolete; no submarginal line or olive-yellow patches or discocellular marks on either wing. Hind wing with the postmedial line represented by a spot on vein 4, and a line from a large oval pink spot below vein 3 to inner margin. Underside with the black markings much reduced.

Hab. Sikhim; Khásis. *Exp.* 62 millim.

4015. **Pseudoterpna apicalis,** *Moore, Lep. Atk.* p. 247; *C. & S.* no. 3374.

♂. Rufous, with fuscous striæ, and variegated with olive-yellow and green. Fore wing with olive-yellow antemedial band; a black line on discocellulars; a waved postmedial line excurved beyond cell; a large pure white apical patch with some white specks below it. Hind wing with indistinct cell-spot and waved postmedial line; both wings with olive-yellow on margin. Underside golden yellow, with large black cell-spots; the outer area black, leaving white patches on the margin. Fore wing with a white patch beyond the cell-spot.

Hab. Sikhim. *Exp.* 56 millim.

4016. **Pseudoterpna crocina**, *Butl. A. M. N. H.* (5) vi, p. 126; *id. Ill. Het.* vi, pl. 116, fig. 2; *C. & S.* no. 3372.

Yellowish green. Fore wing irrorated with fuscous; indistinct waved ante- and postmedial lines, the latter much excurved beyond cell, some rufous suffusion beyond the former and inside the latter; traces of a submarginal waved line with rufous suffusion inside it; a white patch on margin below apex. Hind wing orange, with very large discocellular black spot; the outer area green, except at apex; an interrupted submarginal black line expanding into patches at apex and veins 5 and 2. Underside orange; fore wing with black patches below cell and on discocellulars, the latter with white band beyond it; the apical area black as far as outer angle, and with white apical spot. Hind wing as on upperside, but with no green patch on outer area.

Hab. Sikhim. *Exp.* 60 millim.

4017. **Pseudoterpna leopardinata**, *Moore, P. Z. S.* 1867, p. 634; *C. & S.* no. 3373.

Dindica mölleri, *Warr. P. Z. S.* 1893, p. 349.

♂. Differs from *crocina* in the lines of the fore wing having dark blue-grey on them; a rufous patch at end of cell and band beyond postmedial line with green spots on its outer edge; no apical white patch. Hind wing with black suffusion from base to cell-spot and postmedial line, and rufous patches on the anal green area. Underside of fore wing with a black patch in and below the cell; no white band beyond cell or patch at apex, but pale patches on the outer black area; hind wing with dark suffusion on inner area and the broken black submarginal band much more developed.

Hab. Sikhim. *Exp.* 56 millim.

Sect. II. (*Dindica*). Antennæ of male with longer branches; metathorax with a large tuft; abdomen with the medial tuft large.

4018. **Pseudoterpna polyphænaria**, *Guen. Phal.* i, p. 280; *C. & S* no. 3389.

Hypochroma basiflavata, *Moore, P. Z. S.* 1867, p. 632; *C. & S.* no. 3371.

Dindica para, *Swinh. Trans. Ent. Soc.* 1891, p. 490.

Dark green, irrorated with purplish fuscous. Fore wing with indistinct waved antemedial line; a line on discocellulars; a crenulate postmedial line produced to a very acute angle on vein 4; a short submarginal lunulate line near apex, ending in a pink spot. Hind wing orange; the outer area fuscous, with a large black-speckled green patch on inner half of outer margin. Underside orange; the outer area black, with pale patches on margin; fore wing with a black cell-spot.

The Khási form *para* has the outer area of hind wing ochreous, irrorated with purple; the underside white, with a slight yellow tinge, and the marginal black area almost obsolete.

Hab. Dharmsála; Sikhim; Khásis. *Exp.* 45–50 millim.

4019. **Pseudoterpna subrosea,** *Warr. P. Z. S.* 1893, p. 350.

♂. Pinkish brown, with a green tinge, and irrorated with fuscous. Fore wing with traces of oblique subbasal and waved antemedial lines, a line on discocellulars, and postmedial line oblique to vein 4, then waved, and with three small white dentate marks between the costa and its angle. Hind wing suffused with pink, except the outer area below vein 4. Underside pale pinkish.
Hab. Sikhim. *Exp.* 52 millim.

SECT. III. (*Absala*). Antennæ of male with the branches extremely short, little more than serrations.

4020. **Pseudoterpna dorcada,** *Swinh. A. M. N. H.* (6) xii, p. 149.

♂. White; a frontal band, palpi, antennæ, and legs pink; thorax pale olive-green; wings irrorated with olive-green; the costa olive-green, a green patch on inner margin beyond middle, and a large apical patch with a pink patch on its inner edge and two white lunules on it. Hind wing with black spot at end of cell; the outer area greener, with indistinct postmedial and submarginal white bands, the former with a pink patch beyond it on inner margin. Underside of thorax and base of wings orange; large round black cell-spots; fore wing with apical black patch and spot above vein 2; hind wing with two submarginal spots.
Hab. Sikhim; Khásis. *Exp.* 60 millim.

4021. **Pseudoterpna pictaria,** *Moore, Lep. Atk.* p. 248; *C. & S.* no. 3397.

♂. White; frons with a fuscous band. Hind wing slightly suffused with olive-yellow. Fore wing with the costa striated with dark red-brown, and with basal and antemedial spots and a large triangular patch before apex extending down to vein 4; a marginal series of black strigæ. Hind wing with black discocellular lunule; traces of a postmedial line with brown patches beyond it at costa, middle, and towards inner margin, the last being rufous; a marginal series of black striæ. Underside with large black cell-spots and postmedial series of patches.
Hab. Sikhim. *Exp.* 50 millim.

SECT. IV. (*Actenochroma*). Antennæ of male almost simple.

A. *Wings with the margins crenulate.*

a. *Hind tibiæ of male dilated.*

4022. **Pseudoterpna nelearia,** *Guen. Phal.* i, p. 279.

Greenish grey; frons with a black band. Fore wing with waved black antemedial line, dentate below cell; a discocellular band; both wings with crenulate black postmedial line, with pinkish-brown patches and an indistinct waved grey submarginal line beyond it; a marginal series of black specks. Underside

white, with black cell-spots and broad black submarginal band diffused outwards to the margins.

Hab. Moulmein; Java; Borneo. *Exp.* 32 millim.

4023. **Pseudoterpna minimaria**, *Guen. Phal.* i, p. 279; *Moore, Lep. Ceyl.* iii, pl. 192, fig. 2; *C. & S.* no. 3379.
Hypochroma parvula, *Wlk. Cat.* xxi, p. 435.
Acidalia truncataria, *Wlk. Cat.* xxiii, p. 774.

Differs from *nelearia* in having a brown instead of green tinge. Fore wing with the antemedial line more regularly waved; outer area with pinkish beyond as well as before the submarginal line.

Hab. Sikhim; Khásis; Moulmein; Ceylon. *Exp.* 26 millim.

4024. **Pseudoterpna muscicoloraria**, *Wlk. Cat.* xxvi, p. 1543; *C. & S.* no. 3386.
Hypochroma sphagnata, *Feld. Reis. Nov.* pl. 125, fig. 2; *C. & S.* no. 3391.

Bright yellow-green. Fore wing with traces of waved antemedial line; both wings with discocellular speck, curved crenulate postmedial line, and dentate grey submarginal line. Underside ochreous white, with black cell-spots and broad fuscous submarginal band; fore wing with a series of black marginal specks.

Hab. Dharmsála; Sikhim; Khásis. *Exp.* 48 millim.

4025. **Pseudoterpna subtepens**, *Wlk. Cat.* xxi, p. 438.
Hypochroma viridaria, *Moore, P. Z. S.* 1867, p. 632; *C. & S.* no. 3394.
Actenochroma cristata, *Warr. Nov. Zool.* p. 381.
Actenochroma subochracea, *Warr. Nov. Zool.* p. 381.

Grass-green, irrorated with fuscous. Fore wing with indistinct waved antemedial line, with rufous patches on it below the cell; the postmedial line with patches of rufous beyond it; a submarginal series of black specks, and marginal and cilial series of small black spots. Underside reddish ochreous, with blackish cell-spots and broad postmedial band with red beyond it and at costa.

The form *viridaria* from Sikhim and Ceylon is larger and much more prominently irrorated with fuscous above and below than *subtepens* from the Khásis and Borneo.

Hab. Sikhim; Khásis; Ceylon; Borneo. *Exp.* 42–60 millim.

4026. **Pseudoterpna usneata**, *Feld. Reis. Nov.* pl. 125, fig. 12; *C. & S.* no. 3418.

Differs from *subtepens* in being more sage-green, with some grey instead of the rufous on the lines; both wings with a prominent series of submarginal spots; underside without a band and thickly and evenly speckled and suffused with fuscous.

Hab. Sikhim. *Exp.* 64 millim.

4027. **Pseudoterpna baba,** *Swinh. A. M. N. H.* (6) xii, p. 148.

♂. Differs from *subtepens* in being much bluer green; fore wing without the waved antemedial line; neither wing with rufous beyond the postmedial line; a submarginal series of small white spots. Underside as in the typical form.

Hab. Khásis. *Exp.* 48 millim.

4028. **Pseudoterpna subopalina,** *Warr. Nov. Zool.* p. 382.
Psilotagma decorata, *Warr. Nov. Zool.* p. 678.

♂. Differs from *subtepens* in being dull grey-green; the patches at base of wings and on the postmedial line larger, pale pink, and prominently irrorated with fuscous. Underside white, with black cell-spots, and the postmedial interrupted band pale red or blackish.

Hab. Bhután; Khásis. *Exp.* 52 millim.

b. *Hind tibiæ of male not dilated.*

4029. **Pseudoterpna farinosa,** *Warr. P. Z. S.* 1893, p. 350.

♂. Fuscous grey; frons with a black band. Fore wing with indistinct obliquely waved ante- and postmedial grey lines and traces of a dentate submarginal line. Hind wing with waved postmedial line and traces of dentate submarginal line; both wings with marginal series of black specks. Underside grey, with prominent black cell-spots and traces of a postmedial band.

Hab. Láhul, 12,300 feet. *Exp.* 54 millim.

B. (Calleremites). *Wings with the margins non-crenulate.*

4030. **Pseudoterpna subornata,** *Warr. Nov. Zool.* p. 385.

♂. Dull grey-green; wings with obscure pale striæ. Fore wing with excurved antemedial line and incurved medial line, the area between them dark green. Hind wing with the base dark green, bounded by an incurved medial line. Underside grey; the base of wings orange; very large black cell-spots and a diffused fuscous very broad postmedial band.

Type very faded.

Hab. Sikhim. *Exp.* 66 millim.

Genus **SPHAGNODELA.**

Sphagnodela, *Warr. P. Z. S.* 1893, p. 351.

Type, *S. lucida*, Warr.

Range. Sikhim.

Differs from *Pseudoterpna* in the antennæ of male having short branches dilated at extremity; the hind tibiæ not dilated. Fore wing with vein 3 from well before the end of cell; 11 anastomosing with 12. Hind wing much shorter; the margin hardly crenulate; no tufts at end of cell; vein 3 from well before the lower angle 6, 7 on a short stalk.

4031. **Sphagnodela lucida,** *Warr. P. Z. S.* 1893, p. 351, pl. 32, fig. 13.

Grass-green, irrorated with black; the abdomen and hind wing pale ochreous; palpi black at sides. Fore wing with waved antemedial line; a discocellular lunule; a crenulate postmedial line with some white scales on its outer edge; a series of black

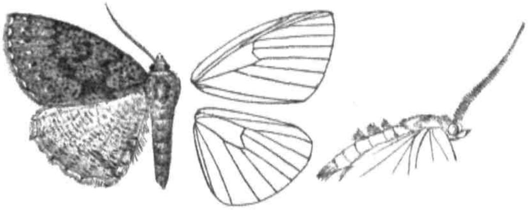

Fig. 212.—*Sphagnodela lucida*, ♂. 1/1.

marginal spots; both wings with marginal series of specks. Underside pale, with the disk of fore wing almost completely covered by the black irroration being conjoined into blotches.

Hab. Sikhim, 10,000 feet. *Exp.* 46 millim.

Genus **XENOZANCLA.**

Xenozancla, *Warr. P. Z. S.* 1893, p. 342.

Type, *X. versicolor.*

Range. Nága Hills.

Palpi hardly reaching beyond the frons, which has a rounded prominence; antennæ of male thickened and flattened; hind tibiæ dilated with a fold containing a tuft of long hair; abdomen with dorsal tufts. Fore wing with the outer margin crenulate and excised between the apex and vein 4, where it is excurved; vein 3 from before angle of cell; 7, 8, 9, 10 stalked; 11 anastomosing with 12. Hind wing with the outer margin crenulate and produced to slight points at veins 4 and 6; vein 3 from before angle of cell; veins 6, 7 from cell.

4032. **Xenozancla versicolor,** *Warr. P. Z. S.* 1893, p. 342, pl. 32, fig. 17.

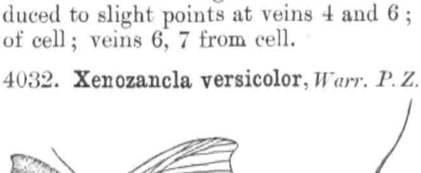

Fig. 213.—*Xenozancla versicolor*, ♂. 1/1.

♂. Grey-brown, with slight olive-yellow suffusion; frons dark rufous; the dorsal tufts rufous; wings irrorated and striated with rufous. Fore wing with indistinct waved antemedial line; both wings with a postmedial curved line reduced to specks between veins 4 and 6.

Hab. Nágas, 6000 feet. *Exp.* 24 millim.

Genus CHLORODONTOPERA.

Chlorodontopera, *Warr. P. Z. S.* 1893, p. 351.
Episothalma, *Swinh. A. M. N. H.* (6) xii, p. 149 (1894).
Dooabia, *Warr. Nov. Zool.* p. 388 (1894).
Cacamoda, *Swinh. Trans. Ent. Soc.* 1894, p. 172.

Type, *C. chalybeata*, Moore.

Range. Himalayas; Assam; Burma; Nilgiris; Travancore; Ceylon; Borneo.

Palpi oblique; the 2nd joint thickly scaled and reaching beyond the frons; abdomen with dorsal tufts; wings with the outer margin crenulate. Fore wing with veins 7, 8, 9, 10 stalked; 11 anastomosing with 12, and then with 10. Hind wing with the margin produced to points at vein 4 and usually at 6.

SECT. I. Fore wing with the outer margin excised from apex to vein 4.

A. *Hind tibiæ of male dilated with a fold containing a tuft of long hair; antennæ bipectinated with rather short branches; hind wing with veins* 6, 7 *from upper angle*, 8 *approximating to* 7 *to middle of cell.*

4033. **Chlorodontopera discopilata**, *Moore, P. Z. S.* 1867, p. 621; *C. & S.* no. 3162.

♂. Olive-green; the palpi fuscous; the frons rufous; abdomen with dark dorsal tufts. Fore wing with the costa pink; a waved olive antemedial line; both wings with large pale-edged black discocellular spots, on hind wing reniform; crenulate postmedial and submarginal grey-edged olive lines; the cilia pinkish. Underside orange, irrorated with black; an oblique black postmedial line curved on hind wing; the cilia blackish.

Hab. Sikhim; Khásis. *Exp.* 56 millim.

4034. **Chlorodontopera chalybeata**, *Moore, P. Z. S.* 1872, p. 580, pl. 34, fig. 4; *C. & S.* no. 3161.

♂. Differs from *discopilata* in the frons being black; some black

Fig. 214.—*Chlorodontopera chalybeata*, ♂. ½.

marks at base of cilia; the discocellular spot of fore wing smaller; the underside purplish brown, without markings.

Hab. Sikhim; Khásis. *Exp.* 42 millim.

B. *Hind tibiæ of male not dilated and with a terminal pair of spurs only; hind wing with veins 6, 7 stalked; 8 leaving 7 nearer the base.*

a. *Antennæ of male bipectinated; both wings with vein 3 from before angle of cell.*

4035. **Chlorodontopera æruginata,** *Warr. P. Z. S.* 1893, p. 352.

♂. Yellow-green; frons rufous; wings with the discocellular speck rufous; a postmedial series of white specks slightly angled at vein 4 of fore wing and veins 4 and 6 of hind wing; the outer margin pink; the cilia tipped with white. Underside yellower, with yellow cell-specks and postmedial line and a pink fascia on basal part of costa of fore wing.

Hab. Nágas. *Exp.* 30 millim.

4036. **Chlorodontopera palliplagiata,** *Wlk. Cat.* xxvi, p. 1563.

♂. Emerald-green; the frons brown; fore wing with the costa ochreous, irrorated with black; both wings with rufous cell-speck; a large whitish patch suffused with pink and irrorated with black at outer and anal angles, inwardly edged by a sinuous crimson line; a marginal black line. Underside pale.

Hab. Moulmein. *Exp.* 52 millim.

b. (Dooabia). *Both wings with vein 3 from angle of cell; hind wing with the outer margin not produced at vein 6.*

4037. **Chlorodontopera viridata,** *Moore, P. Z. S.* 1867, p. 623; *Waterhouse, Aid,* pl. 184, fig. 4; *C. & S.* no. 3174.

Thalassodes lunifera, *Moore, Lep. Atk.* p. 250; *C. & S.* no. 3462.

♀. Yellow-green, with olive-yellow striæ; palpi brownish; abdomen with the dorsal tufts white. Fore wing with curved olive antemedial line; small annulus at end of cell; two postmedial lines conjoined below vein 2; a large purplish-fuscous patch on margin above outer angle, with some black specks and striæ between it and apex. Hind wing with small annulus at end of cell; an olive medial line extremely excurved and crenulate beyond the cell; a series of dark specks just inside the margin; cilia brownish. Palpi with the 3rd joint long; hind wing with the margin not produced at vein 6.

Hab. Khásis; Manipur. *Exp.* 56 millim.

c. (Episthophthalma). *Antennæ of male minutely serrate and fasciculate; fore wing with vein 3 from angle of cell, hind wing with veins 3, 4 stalked.*

4038. **Chlorodontopera ocellata,** *Swinh. A. M. N. H.* (6) xii, p. 218; *id. Trans. Ent. Soc.* 1894, pl. ii, fig. 9.

♂. Dark green; frons brownish pink; abdomen pink above. Fore wing with the costa pinkish, with black scales; both wings with black discocellular ring-spots; a postmedial series of black and ochreous specks on the veins; a black marginal line; cilia

ochreous with black tips. Underside orange-yellow, irrorated with black; black ring-spots at end of cell; a postmedial black line.

Hab. Khásis. *Exp.* 48 millim.

4039. **Chlorodontopera robustaria**, *Guen. Phal.* i, p. 383; *C. & S.* no. 3485.

Thalassodes sisunaga, *Wlk. Cat.* xxii, p. 550; *C. & S.* no. 3472.

Thalassodes macruraria, *Wlk. Cat.* xxvi, p. 1561; *C. & S.* no. 3464.

Differs from *ocellata* in being blue-green; wings with brown cell-specks; a crenulate olive postmedial line angled at vein 4 of each wing; cilia without the dark tips. Underside greenish white, with faint cell-specks and crenulate postmedial line.

Hab. Sikhim; Assam; Moulmein; Nilgiris. *Exp.* 46 millim.

SECT. II. Fore wing with the outer margin not excised; hind wing with veins 3, 4 from angle of cell; the points at veins 4 and 6 slight.

A. *Hind tibiæ of male with one pair of spurs.*

4040. **Chlorodontopera pannosa**, *Moore, Lep. Ceyl.* iii, p. 433, pl. 195, figs. 1, 1 *a*, *b* (larva); *C. & S.* no. 3508.

Œnospila lyra, *Swinh. Trans. Ent. Soc.* 1892, p. 6.

Blue-green; the frons and palpi rufous; the vertex of head and shaft of antennæ white; abdomen red, with white spots. Fore wing with the costa white, striated with rufous; a rufous speck at end of cell and one on inner margin before middle; both wings with traces of crenulate rufous postmedial line; a marginal moniliform red line suffused with purplish grey, and expanding at outer angle of fore wing into a large patch suffused with purple-grey and with white centre; a similar patch without white centre at apex of hind wing. Underside white, with fuscous band near outer angle of fore wing and spot at apex of hind wing.

Larva green with the spiracles black; the 1st and 11th somites with sharp prominences; head and legs reddish. *Pupa* green; the abdominal segments black-speckled. Food-plant *Loranthus*.

Hab. Khásis; Moulmein; Ceylon. *Exp.* 32 millim.

B. *Hind tibiæ of male with two pairs of spurs.*

4041. **Chlorodontopera devexata**, *Wlk. Cat.* xxii, p. 573; *C. & S.* no. 3501.

Comibæna undiferata, *Wlk. Cat.* xxxv, p. 1612.

Agathia scutuligera, *Butl. A. M. N. H.* (5) vi, p. 216; *id. Ill. Het.* vi, pl. 118, fig. 1; *C. & S.* no. 3512.

Differs from *pannosa* in the fore wing having no rufous striæ; both wings with two specks at end of cell; the postmedial line reduced to specks; the patch at outer angle very irregular, with yellowish suffusion on it, and sending a lobe upwards to vein 5; the marginal rufous line with prominent white diamond-shaped marks on it; the margin of hind wing more dentate at veins 6 and 4. Underside with the short band rufous.

Hab. Simla; Mussooree; Sikhim; Khásis; Travancore; Borneo. *Exp.*, ♂ 32, ♀ 40 millim.

Genus AGATHIA.

Agathia, *Guen. Phal.* i, p. 380 (1857).

Type, *A. lycænaria*, Koll.

Range. Siberia; Japan; Ethiopian, Oriental, and Australian regions.

Palpi with the 2nd joint upturned and reaching vertex of head, the 3rd porrect, short in the male, long in female; antennæ almost simple; hind tibiæ of male dilated with a fold containing a tuft of long hair and ending in a short process on upperside; abdomen with dorsal tufts. Fore wing with vein 3 from angle of cell; 7, 8, 9, 10 stalked; 11 free. Hind wing with vein 3 from angle of cell; 6, 7 from upper angle; 8 approximating to 7 to near middle of cell; the outer margin produced to a point at vein 4.

4042. **Agathia magnifica,** *Moore, P. Z. S.* 1879, p. 416; *id. Lep. Ceyl.* iii, pl. 197, fig. 4; *C. & S.* no. 3524.
Agathia gemma, *Swinh. Trans. Ent. Soc.* 1892, p. 8.

Differs from *lycænaria* in the markings being black-brown. Fore wing with a medial band of nearly even width angled on median nervure; the submarginal line terminating on the margin above outer angle and sending two streaks from its medial expansion to the outer margin. Hind wing with the submarginal line terminating on outer margin above anal angle; hardly a trace of pink on the ocellus. Underside with the markings purplish fuscous.

Hab. Sikhim; Khásis; Ceylon. *Exp.* 42 millim.

4043. **Agathia intercissa,** *Wlk. Cat.* xxii, p. 592; *C. & S.* no. 3521.

Differs from *lycænaria* in the markings being pale rufous. Fore wing with the medial band somewhat curved; the postmedial line further from the margin and expanding into spots at each vein; no spot on the margin above middle. Hind wing with the line postmedial, expanding into irregular patches, and with no patch beyond it connecting it with the subocellate mark.

Hab. Ceylon. *Exp.* 36 millim.

4044. **Agathia lycænaria,** *Koll. Hügel's Kaschmir,* iv, p. 486; *C. & S.* no. 3523.
Geometra albiangularia, *Herr.-Schäff. Samml. aussereur. Schmett.* fig. 339.
Agathia discriminata, *Wlk. Cat.* xxii, p. 591.

♂. Emerald-green; frons, thorax, and abdomen with pale brown-speckled markings. Fore wing with the costa pale, speckled with brown; a grey-brown patch at base; sinuous medial and submarginal lines expanding into patches below costa at middle and inner margin; outer margin with brown line and spot at apex and above middle. Hind wing with sinuous

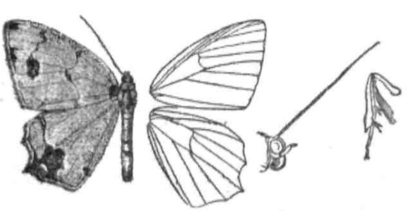

Fig. 215.—*Agathia lycænaria,* ♂. ½.

submarginal brown line with a grey line on it, and conjoined at middle to a large brown patch on outer area, with a white spot on a pink patch at the tail; the margin brown. Underside white, with the patches on the lines pink.

♀. More heavily marked with rufous instead of grey-brown, especially in the form *discriminata*, which has the submarginal line of hind wing developed into a broad band at costa.

Hab. China, and throughout India, Ceylon, and Borneo; Penang; Java. *Exp.*, ♂ 40, ♀ 44 millim.

4045. **Agathia hemithearia**, *Guen. Phal.* i, p. 381; *Moore, Lep. Ceyl.* iii, pl. 197, fig. 3; *C. & S.* no. 3519.

Differs from *lycænaria* in the markings being more rufous; the thorax and abdomen more heavily marked. Fore wing with a medial band of regular width, and angled on median nervure; both wings with the outer area rufous irrorated with fuscous, with a waved postmedial grey line enclosing some conjoined submarginal green patches below apex of each wing and near inner margin of hind wing; the green area sending a prominent tooth into the rufous area at vein 5 and below vein 2 of each wing; the ocellus reduced to a pale line across the tail. Underside with the markings purplish fuscous.

Hab. Sikhim; Assam; Nilgiris; Ceylon. *Exp.* 36 millim.

4046. **Agathia beata**, *Butl. A. M. N. H.* (5) vi, p. 218; *id. Ill. Het.* vi, pl. 118, fig. 2; *C. & S.* no. 3517.

♂. Differs from *hemithearia* in the green being irrorated with fuscous; the markings dark fuscous. Fore wing with the medial band narrow, and with a speck at upper angle of cell; the subapical green patch larger, the fuscous dentate line inside it being narrow. Hind wing with a fuscous patch at base; the patches of green near apex and inner margin larger.

Hab. Sikhim; Khásis; Manipur. *Exp.* 40 millim.

4047. **Agathia codina**, *Swinh. Trans. Ent. Soc.* 1892, p. 7, pl. 1, fig. 3.

♂. Differs from *beata* in the fuscous at base of wings being more extensive. Fore wing with the costa grey, the indistinct medial band dentate, and with the cell-speck at middle of discocellulars; the postmedial line on both wings much further from the margin, dentate and with black specks near costa of fore wing, black and obliquely curved from costa of hind wing to vein 4, and with a white spot beyond it at costa, incurved and dentate from vein 4 to inner margin, the area beyond it grey striated with fuscous, and with fuscous-striated green patches near apex of each wing and spots on inner area of hind wing, which has a discocellular speck. Underside with the dark patches striated.

Hab. Khásis. *Exp.* 56 millim.

4048. **Agathia visenda**, *Butl. A. M. N. H.* (5) vi, p. 218; *id. Ill. Het.* vi, pl. 118, fig. 3; *C. & S.* no. 3526.

♂. Differs from *hemithearia* in having hardly any green on

thorax and abdomen. Fore wing with the costa more rufous; the medial band outwardly oblique, evenly curved, and expanding into a patch where it joins the costal fascia; the tooth running into the rufous area at vein 5 broad on both wings; no tooth below vein 2.

Hab. Sikhim. *Exp.* 44 millim.

4049. **Agathia arcuata,** *Moore, P. Z. S.* 1867, p. 640; *Waterh. Aid,* pl. 184, fig. 3; *C. & S.* no. 3516.

Differs from *visenda* in the medial band of fore wing being more oblique and conjoined below vein 2 to the outer rufous area, which runs further inwards along inner margin.

Hab. Sikhim; Khásis. *Exp.* 36 millim.

4050. **Agathia lætata,** *Fabr. Ent. Syst.* iii, 2, p. 164; *Moore, Lep. Ceyl.* iii, pl. 197, figs. 1 *a, b* (larva); *C. & S.* no. 3522.
Agathia hilarata, *Guen. Phal.* i, p. 381; *C. &. S.* no. 3520.
Agathia catenaria, *Wlk. Cat.* xxii, p. 590.
Agathia quinaria, *Moore, P. Z. S.* 1867, p. 639; *C. & S.* no. 3525.
Agathia carissima, *Butl. Ill. Het.* ii, p. 50, pl. 36, fig. 7.
Agathia lacunaria, *Von Hedeman, Hor. Soc. Ent. Ross.* xiv, p. 512, pl. iii, fig. 4.
Agathia asterias, *Meyr. P. Linn. Soc. N. S. W.* (2) ii, p. 899.
Agathia prasinaspis, *Meyr. Trans. Ent. Soc.* 1889, p. 495.
Agathia prasina, *Swinh. A. M. N. H.* (6) xii, p. 219.

Differs from all the preceding species in the inner edge of the outer rufous area being evenly curved on fore wing, dentate on hind wing; the green patch below apex of each wing oval; the green spots towards inner margin of hind wing rarely developed; the ocellus more developed than in *hemithearia*.

In the typical form *lætata* the medial band of fore wing is reduced to a small tooth from the costal fascia; in *hilarata* and the other forms it is as in *visenda*, but not expanding below costa. The Askold, Japanese, Khási, and Australian form *carissima* has the inner edge of the outer area of fore wing straighter, the rufous area being broader at inner margin; in some Japanese specimens and in the Australian form the medial band of fore wing is erect and expands into patches.

Larva green, with dorsal prominences on 1st and 11th somites. *Pupa* yellowish green above, green below, the abdominal somites black-speckled. Food-plant *Nerium oleander*.

Hab. Askold Island, Siberia; Japan; throughout India, Ceylon, and Burma; Borneo; New Guinea; Australia. *Exp.* 38 millim.

Genus **ULIOCNEMIS.**

Uliocnemis, *Warr. P. Z. S.* 1893, p. 355.

Type, *U. cassidara*, Guen.

Range. Japan; Sikhim; Khásis; Sylhet; Burma; Ceylon; Borneo; Australia.

Differs from *Agathia* in the antennæ being bipectinated to three-fourths length in both sexes; hind tibiæ of male not dilated; hind wing with veins 6, 7 stalked.

SECT. I. Hind tibiæ with the medial spurs absent; hind wing with the outer margin angled at vein 4.

4051. **Uliocnemis partita,** *Wlk. Cat.* xxii, p. 573; *Butl. Ill. Het.* vi, pl. 117, fig. 11; *C. & S.* no. 3509.
Comibæna felicitata, *Wlk. Cat.* xxii, p. 579.
Thalera concisiplaga, *Wlk. Cat.* xxii, p. 598.

Head, thorax, and abdomen white; the collar green; wings bright apple-green. Fore wing with curved antemedial white line; a dark speck at end of cell; a waved postmedial white line bent inwards round a rufous patch at anal angle and with white suffusion beyond it above middle; a white line from the apex curved out to the margin at vein 4, then waved to the rufous patch; some black specks on margin. Hind wing with highly curved postmedial white line, with a large purplish-red patch beyond it from costa to vein 4, the apex and anal angle white; an indistinct waved white submarginal line. Underside white, with the costal area of fore wing green, widening to the postmedial line; a black speck at end of cell of fore wing and patch at apex of hind wing.

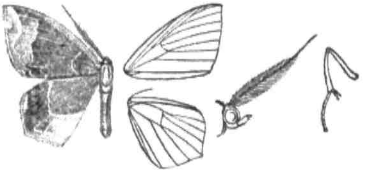

Fig. 216.—*Uliocnemis partita*, ♂. ½.

Hab. Khásis; Burma; Borneo; Australia. *Exp.*, ♂ 34, ♀ 42 millim.

SECT. II. Hind tibiæ with a minute pair of medial spurs; hind wing with the outer margin rounded.

4052. **Uliocnemis cassidara,** *Guen. Phal.* i, p. 370; *C. & S.* no. 3499.
Comibæna biplagiata, *Moore, Lep. Ceyl.* iii, p. 435; *Hmpsn. Ill. Het.* ix, p. 145, pl. 176, fig. 18 (larva); *C. & S.* no. 3498.

Differs from *partita* in being paler green; the antemedial line of fore wing angled below the cell; the postmedial line not waved, and with no white suffusion beyond it; the red patches at outer angle of fore wing and apex of hind wing much smaller, the latter extending only to vein 5 and narrower, the postmedial line being much nearer the margin, irregular and angled at vein 6; no white at apex or anal angle, but a dark speck on the margin near the angle.

Larva. Yellowish drab; sides of the somites produced into fleshy processes, on which the larva fastens small pieces of withered

leaves and stick as a disguise; it rests with the thoracic somites doubled under the body.

Hab. Ceylon. *Exp.* 32 millim.

4053. **Uliocnemis albimarginata,** *Warr. P. Z. S.* 1893, p. 355.

Differs from *cassidara* in the antemedial line of fore wing being sinuous instead of angled; the postmedial line waved from costa to vein 4, and with white suffusion beyond it between veins 4 and 6; the submarginal line very indistinct; the rufous patch at outer angle wider, the angle itself being white. Hind wing with dark mark on discocellulars; the apical patch much broader; the submarginal line curved out to near margin and with white beyond it.

In the Japanese form the rufous patches are smaller and the submarginal line of hind wing is much nearer the margin.

Hab. Japan; Sikhim. *Exp.*, ♂ 28, ♀ 34 millim.

SECT. III. Hind tibiæ with the medial spurs fully developed.

A. *Hind wing with the outer margin angled at vein 4, but not at 6, nor lobed at anal angle.*

4054. **Uliocnemis albiviridis,** *Moore, P. Z. S.* 1872, p. 581, pl. 34, fig. 3; *C. & S.* no. 3430.

Head and abdomen ochreous; thorax green. Fore wing with the basal two-thirds green, crossed by oblique antemedial and medial ochreous lines, the latter arising from a discocellular spot; an ochreous rufous-irrorated costal fascia; the outer area ochreous, with green patches between the veins diminishing to outer angle; two rufous marginal patches above outer angle. Hind wing with the basal half green, with an ochreous discocellular lunule, its outer edge oblique and near inner margin sinuous; outer area ochreous, with a postmedial series of small green spots, beyond which is an indistinct rufous band arising from an ill-defined apical patch. Underside white; fore wing with the costal area irrorated with fuscous; a cell-spot and traces of postmedial and submarginal lines; hind wing with apical black patch.

Hab. Sylhet. *Exp.*, ♂ 32, ♀ 46 millim.

B. *Hind wing with the outer margin angled at vein 6 and lobed at anal angle.*

4055. **Uliocnemis tumidilinea,** *Moore, Lep. Atk.* p. 249; *C. & S.* no. 3445.

♂. Head, thorax, and abdomen purplish, vertex of head and tegulæ green; wings grass-green. Fore wing with the costa ochreous with dark specks; an oblique antemedial rufous line; both wings with discocellular lunule; a sinuous postmedial line expanding into a patch between veins 3 and 4, and on fore wing at inner margin; the margin and cilia purplish brown, with a fine white line at base of cilia; hind wing with the inner margin purplish

striated with brown, widening at anal angle, which has a black and white subocellate mark on the lobe.

Hab. Sikhim. *Exp.* 44 millim.

Genus **HEMITHEA**.

Hemithea, *Dup. Lép. France*, iv, 2, p. 233 (1829).
Mixolophia, *Warr. Nov. Zool.* p. 391 (1894).

Type, *H. strigata*, Müller, from Europe.

Range. Palæarctic and Oriental regions.

Palpi reaching just beyond the frons in male, long in female; antennæ of male usually ciliated; hind tibiæ of male dilated with a fold containing a tuft of long hair; abdomen with dorsal tufts on three segments. Fore wing with vein 3 from angle of cell; 7, 8, 9, 10 stalked; 11 free. Hind wing with the outer margin angled at vein 4; veins 3, 4 and 6, 7 stalked.

SECT. I. Antennæ of male serrate; hind tibiæ with the medial spurs present.

4056. **Hemithea albiradiata**, *Warr. P. Z. S.* 1893, p. 356.

♂. Head and abdomen ochreous white; thorax bright green and white. Fore wing bright green, striated with white; the costa and veins white; a white antemedial line; a broad postmedial whitish band, met by an oblique line from apex at vein 4, below which it is diffused outwards to the margin; some brown at outer angle and a dark line on the margin near angle. Hind wing with the basal half bright green; the veins white; the outer area ochreous white, becoming reddish brown at margin, especially at apex and anal angle; its inner edge curved and a slight postmedial green patch between veins 2 and 4. Underside white, with black patches above vein 4, at outer angle of fore wing, and at apex of hind wing.

Hab. Nágas. *Exp.* 36 millim.

SECT. II. Antennæ of male ciliated; hind tibiæ with the medial spurs absent.

4057. **Hemithea ochrolauta**, *Warr. Nov. Zool.* p. 391.

♂. Frons rufous; vertex of head white; thorax green; abdomen white, with the dorsal tufts rufous. Fore wing dull yellowish green, with indistinct white antemedial line angled below costa; a curved sinuous postmedial white line, with the area beyond it white, striated with green below vein 3; the veins of outer area white; the margin white, with a series of black specks. Hind wing dull yellowish green, with white cell-speck; a highly curved postmedial white line, with the area beyond it entirely white, except a green patch between veins 3 and 7.

Hab. Bhután. *Exp.* 34 millim.

4058. **Hemithea nigropunctata**, *Warr. P. Z. S.* 1893, p. 353, pl. 31, fig. 4.

♂. Green; the frons and antennæ brownish; vertex of head white; abdomen with the 2nd and 3rd segments crimson. Fore wing with the costa ochreous and brown speckled; a sinuous antemedial white line; both wings with black cell-speck and sinuous white postmedial line.

Hab. E. Pegu. *Exp.* 30 millim.

4059. **Hemithea tritonaria**, *Wlk. Cat.* xxvi, p. 1560.
Thalassodes leucospilota, *Moore, Lep. Ceyl.* iii, p. 427, pl. 194, fig. 4; *Hmpsn. Ill. Het.* ix, p. 145, pl. 176, fig. 3 (larva); *C. & S.* no. 3461.
Thalera insularia, *Hmpsn. Ill. Het.* viii, p. 28 (*nec Guen.*).

Yellowish green; the frons dark olive; the vertex of head white; abdomen with some red on 3rd, 4th, and 5th segments. Fore wing with the costa ochreous and dark speckled; a waved white antemedial line; both wings with a waved white postmedial line; a dark marginal line with white specks at the veins; the cilia fuscous grey. Underside whitish.

The Ceylon form *leucospilota* has the frons darker; the cilia purplish black.

Larva. Yellowish green, suffused above with brownish purple, forming anteriorly a dorsal stripe; legs and claspers dull purple; head deeply bifid. Food-plant *Ficus*.

Hab. Hongkong; Khásis; Nilgiris; Ceylon; Borneo; Java. *Exp.*, ♂ 26, ♀ 30 millim.

4060. **Hemithea graminea**, *Hmpsn. Ill. Het.* viii, p. 109, pl. 151, fig. 1.

Differs from *tritonaria* in having no dark marginal line to either wing; the marginal specks pure white; the cilia greenish grey.

Hab. Dharmsála; Khásis; Nilgiris. *Exp.* 26 millim.

4061. **Hemithea aquamarina**, n. sp.
Omphax marina, *Butl. Ill. Het.* vii, p. 21 (*nec A. M. N. H.* 5, i, p. 399).

Blue-green; the frons dark olive; the three tuft-bearing abdominal segments prominently crimson; wings semihyaline. Fore wing with the costa ochreous and dark speckled; an antemedial, and both wings with a curved postmedial, series of yellow and white specks.

Hab. Dharmsála (*Hocking*); Khásis. *Exp.* 26 millim. Type in B. M.

4062. **Hemithea distinctaria**, *Wlk. Cat.* xxxv, p. 1607; *Butl. Ill. Het.* vi, pl. 117, fig. 8; *C. & S.* no. 3455.
Hemithea rubrifrons, *Warr. Nov. Zool.* p. 393.

♂. Grey-green; frons dark olive; the tuft-bearing segments of abdomen dark rufous. Fore wing with traces of dark specks on costa; an indistinct pale sinuous antemedial line; both wings

with traces of cell-specks and prominent white nearly straight postmedial line. Underside white.

Hab. Sikhim; Bhután. *Exp.* 35 millim.

4063. **Hemithea disjuncta**, *Wlk. Cat.* xxii, p. 595; *Moore, Lep. Ceyl.* iii, pl. 196, fig. 5; *C. & S.* no. 3480.

Emerald-green; frons and palpi red; vertex of head and shaft of antennæ white. Fore wing with the costa ochreous and dark speckled; both wings with brown ochreous-ringed cell-spots; a

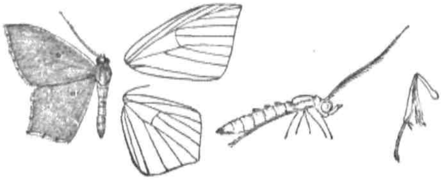

Fig. 217.—*Hemithea disjuncta*, ♂. ½.

postmedial series of white specks; a marginal dark line and series of white specks at the veins; the cilia and underside whitish.

Hab. Japan; Sikhim; Khásis; Ganjam; Canara; Nilgiris; Ceylon. *Exp.* 30 millim.

4064. **Hemithea rubripicta**, *Warr. P. Z. S.* 1893, p. 353.

♂. Yellowish green; frons and fore legs pink; the tufted segments of abdomen and a patch on anal segment pink and black; wings slightly irrorated with black. Fore wing with the costa pink, irrorated with black; both wings with a black spot at end of cell; a postmedial series of rufous specks, slightly curved on fore wing, and angled at vein 4 of hind wing. Underside white.

Hab. Sikhim. *Exp.* 34 millim.

Genus **TANAORRHINUS**.

Tanaorhinus, *Butl. Ill. Het.* iii, p. 38 (1879).

Type, *T. reciprocatus*, Wlk.

Range. Japan; China; Himalayas; Khásis; Sumatra; Java; Borneo.

Palpi porrect; the 2nd joint clothed with hair and reaching beyond the frons, the 3rd short and naked; hind tibæ not dilated. Fore wing with the costa highly arched, the apex much produced and falcate; veins 3, 4 from angle of cell; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3, 4 from angle of cell; 6, 7 from upper angle.

SECT. I. *Antennæ of male bipectinated for two-thirds length, with short branches dilated at the extremity.*

4065. **Tanaorrhinus reciprocatus**, *Wlk. Cat.* xxii, p. 515; *Butl. Ill. Het.* vi, p. 68, pl. 117, fig. 4; *C. & S.* no. 3448.
Geometra dimissa, *Wlk. Cat.* xxii, p. 516; *C. & S.* no. 3447.
Geometra confuciaria, *Wlk. Cat.* xxii, p. 522.

Bright grass-green, the frons darker; the vertex of head white. Fore wing with waved antemedial white line bent outwards below cell; a black speck at end of cell; both wings with oblique lunulate postmedial white line, with diffused whitish lunules beyond it, most prominent on fore wing; the line produced to an

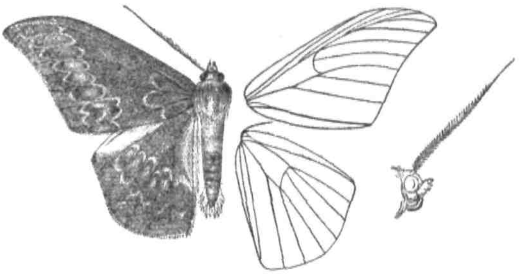

Fig. 218.—*Tanaorrhinus reciprocatus*, ♂. ½.

angle on vein 1 of fore wing and becoming medial on hind wing; an indistinct submarginal series of white marks; cilia white at tips. Underside with black cell-specks and postmedial oblique dark line.

Hab. Japan; N. China; Simla; Dharmsála; Sikhim; Khásis. *Exp.* 64–76 millim.

4066. **Tanaorrhinus viridiluteatus**, *Wlk. Cat.* xxii, p. 515; *Butl. Ill. Het.* vi, pl. 117, fig. 2; *C. & S.* no. 3449.
Geometra luteoviridata, *Wlk. Cat.* xxii, p. 524.
Geometra subignita, *Wlk. Cat.* xxii, p. 525.
Geometra basaliata, *Wlk. Cat.* xxxv, p. 1603.
Drepana rafflesii, *Moore, Lep. E. I. Co.* p. 369, pl. xi *a*, fig. 1.

♂. Differs from *reciprocatus* in being dark blue-green. Fore wing with the ante- and postmedial waved lines much closer together, with white suffusion and two black cell-specks between them; no lunulate marks beyond the postmedial line on either wing; the submarginal white marks slight; cilia black at base. Underside of fore wing green, with the costal area to beyond cell purple-grey; a postmedial oblique line; rufous patches at apex and outer angle; hind wing yellow, with traces of postmedial line; the outer area rufous, turning to yellow at margin.

♀ with the underside silvery red on basal area, dark red on outer; the postmedial line prominent on both wings, and a greenish-silvery tinge just beyond it.

Hab. Sikhim; Khásis; Singapore; Sumatra; Java; Borneo. *Exp.*, ♂ 56, ♀ 64 millim.

4067. **Tanaorrhinus kina**, *Swinh. A. M. N. H.* (6) xii, p. 150.

♂. Differs from *reciprocatus* in being much yellower green. Fore wing with the antemedial line obsolete; cilia pure white. Underside with submarginal black spots and blotches, large and conjoined on hind wing, instead of the oblique line; a marginal black line.

Hab. Khásis. *Exp.* 48 millim.

4068. **Tanaorrhinus vittatus**, *Moore, P. Z. S.* 1867, p. 636; *Waterhouse, Aid*, pl. 151, fig. 5; *C. & S.* no. 3446.
Tanaorhinus prasinus, *Butl. A. M. N. H.* (5) iv, p. 438.

, Bright green, suffused with silvery white, the markings dark green. Fore wing with outwardly oblique subbasal and antemedial bands and inwardly oblique postmedial and submarginal bands: a lunule at end of cell. Hind wing with outwardly oblique medial, postmedial, and submarginal bands. Underside suffused with orange-yellow.

Hab. Japan; N.W. Himalayas; Sikhim; Khásis. *Exp.*, ♂ 44, ♀ 54 millim.

SECT. II. Antennæ of male bipectinated to apex, the branches long.

4069. **Tanaorrhinus falcatus**, n. sp.

♂. Dull grey-green. Fore wing with the base yellowish; a pale straight erect postmedial line; a yellow fascia below costa towards apex, with a hyaline spot on it. Hind wing with a hyaline medial band, wider and with yellow edges towards inner margin; traces of a submarginal straight line.

Hab. Sikhim (*Möller*). *Exp.* 28 millim. Type in coll. Elwes.

Genus APORANDRIA.

Aporandria, *Warr. Nov. Zool.* p. 385 (1894).
Aporandria, *Swinh. Trans. Ent. Soc.* 1894, p. 174.

Type, *A. specularia*, Guen.

Range. Assam; Wynaad; Nilgiris; Travancore; Ceylon; Sumatra.

Palpi obliquely porrect, thickly scaled, and reaching beyond the sharp frontal tuft; antennæ bipectinated, with long branches to two-thirds length in both sexes; hind tibiæ not dilated. Fore wing with the apex produced and acute; the outer margin oblique; veins 3, 4 from angle of cell or shortly stalked; 6, 7, 8, 9, 10 stalked; 11 free. Hind wing with the outer margin angled at vein 4; veins 3, 4 and 6, 7 stalked.

4070. **Aporandria specularia**, *Guen. Phal.* i, p. 342; *Moore, Lep. Ceyl.* iii, pl. 194, figs. 1, 1 *a*; *C. & S.* no. 3444.

Pea-green; palpi and frons chocolate; vertex of head white. Fore wing with a dark speck at end of cell. Hind wing with the base yellower green; a large lunulate pinkish mark with brown

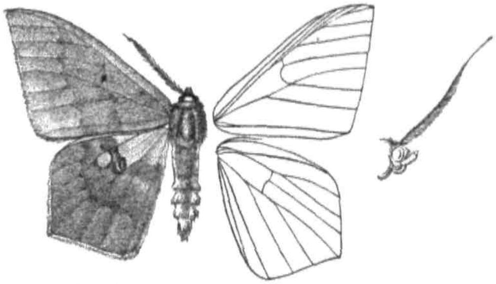

Fig. 219.—*Aporandria specularia*, ♂. ½.

edges and a black speck on it at end of cell, extending towards costa and inner margin as an indistinct band; both wings with traces of waved postmedial line. Underside of palpi, thorax, and base of wings silvery white.

Hab. Assam; Wynaad; Nilgiris; Travancore; Ceylon; Sumatra. *Exp.*, ♂ 54, ♀ 60 millim.

Genus GEOMETRA.

Geometra, *Linn. Syst. Nat.* i, 2, p. 858 (1767).
Comibæna, *Hübn. Verz.* p. 284 (? 1818).
Loxochila, *Butl. P. Z. S.* 1881, p. 615.
Chlororithra, *Butl. Ill. Het.* vii, p. 106 (1889).

Type, *G. papilionaria*, Linn., from Europe.

Range. Palæarctic region; Himalayas.

Palpi porrect, the 2nd joint clothed with hair and reaching just beyond the short frontal tuft; antennæ of male bipectinated. Fore wing with veins 3, 4 from angle of cell; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3, 4 from angle of cell; 6, 7 from upper angle.

In the typical section the wings have the outer margin crenulate; hind tibiæ of male not dilated.

SECT. II. (*Loxochila*). Wings with the outer margin evenly rounded; hind tibiæ of male dilated with a fold containing a tuft of long hair.

4071. **Geometra smaragdus**, *Butl. A. M. N. H.* (5) vi, p. 128; *id. Ill. Het.* vi, pl. 117, fig. 5.

♂. Grass-green. Fore wing with waved white antemedial line,

edged with darker green; both wings with similar oblique postmedial line and submarginal series of white spots. Underside white.

Hab. Sikhim. *Exp.* 62 millim.

4072. **Geometra flavifrontaria,** *Guen. Phal.* i, p. 346; *C. & S.* no. 3490.
Loxochila mutans, *Butl. P. Z. S.* 1881, p. 615; *C. & S.* no. 3428.

Semidiaphanous blue-green; frons ochreous. Fore wing with the costa white; a white outwardly oblique antemedial line; both

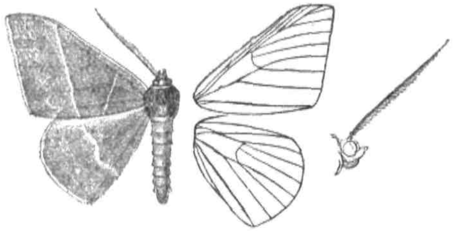

Fig. 220.—*Geometra flavifrontaria*, ♂. ½.

wings with oblique postmedial straight line; traces of a waved submarginal line; the cilia and underside white.

Hab. N.W. Himalayas. *Exp.*, ♂ 44, ♀ 54–58 millim.

4073. **Geometra pictipennis,** *Butl. A. M. N. H.* (5) vi, p. 215; *id. Ill. Het.* vi, pl. 117, fig. 12; *C. & S.* no. 3510.

Pale yellow-green; the frons rufous; the head and fore tibiæ fuscous; wings slightly striated with white. Fore wing with oblique antemedial white line, the area inside it whitish; postmedial and submarginal slightly waved white lines, the area between them mostly white; a large pink patch on inner margin before outer angle; a marginal series of black specks. Hind wing with some pink scales on discocellulars; a large pink patch on costa before apex and another at anal angle, these marks being embraced by a ferruginous submarginal line, which sends teeth inwards on veins 4 and 2 nearly to cell; some pink and white on margin. Underside white.

Hab. Sikhim. *Exp.* 36 millim.

4074. **Geometra chalybeata,** *Moore, P. Z. S.* 1867, p. 639; *C. & S.* no. 3500.

Bright yellow-green; the palpi yellow; wings thickly striated with white. Fore wing with the costa ochreous; ante- and postmedial nearly straight oblique white lines, the latter becoming

yellow at inner margin; both wings with slight white line on discocellulars and marginal white line. Hind wing with the cilia pink at apex and anal angle; a yellow mark above anal angle and two black specks on the margin. Underside banded with green and white.

Hab. Sikhim. *Exp.* 34 millim.

4075. **Geometra delineata**, *Warr. P. Z. S.* 1893, p. 356, pl. 31, fig. 14.

♂. Differs from *chalybeata* in the white striation being slight; no white suffusion. Fore wing with the antemedial line ochreous; a dark speck at end of inner cell; the postmedial line fine, oblique, much nearer the margin, and bent inwards to the yellow patch above the margin. Hind wing with a fine white submarginal line, with a slight yellow dentition above vein 4, and strong tooth near anal angle; the cilia ochreous, with no pink at apex and very little at anal angle. Underside uniform white.

Hab. Sikhim. *Exp.* 32 millim.

4076. **Geometra fea**, *Butl. Ill. Het.* vii, p. 106, pl. 136, fig. 9.

White, suffused with pale olive-green. Fore wing with some olive-green spots on costa; a waved white subbasal line; ante- and postmedial white lines edged with green and approaching each other towards inner margin, the former waved, the latter crenulate and joined by streaks on the veins to a lunulate white submarginal line with green spots on the lunules; a green speck at lower angle of cell. Hind wing with waved green subbasal and medial lines; the postmedial and submarginal lines as on fore wing, the latter with some fuscous on costa, which becomes a prominent black apical patch on underside.

Hab. Dharmsála; Murree. *Exp.* 36 millim.

Genus **EUCHLORIS**.

Euchloris, *Hübn. Verz.* p. 283 (? 1818).
Jodis, *Hübn. Verz.* p. 285.
Thetidia, *Boisd. Ind. Meth.* p. 189 (1840).
Comostola, *Meyr. P. Linn. Soc. N. S. W.* (2) ii, p. 869 (1888).
Microloxia, *Warr. P. Z. S.* 1893, p. 354.

Type, *E. smaragdaria*, Fabr.

Range. Palæarctic, Oriental, and Australian regions.

Palpi with the 2nd joint thickly scaled and reaching beyond the frons; antennæ of male bipectinated; hind tibiæ not dilated. Fore wing with veins 3, 4 from angle of cell; 7, 8, 9, 10 stalked; 11 anastomosing with 12. Hind wing with the frenulum absent; the outer margin rounded.

SECT. I. (*Euchloris*). Hind wing with veins 3, 4 from angle of cell.

A. *Palpi with the 3rd joint short; antennæ of male bipectinated to apex, of female with short branches.*

a. *Hind wing with veins 6, 7 shortly stalked in male, from cell in female.*

4077. **Euchloris detracta,** *Wlk. Cat.* xxii, p. 521; *C. & S.* no. 3527.
Thalassodes unduligera, *Butl. Ill. Het.* vii, p. 105, pl. 136, fig. 6.

Semihyaline blue-green; the frons rufous; the vertex of head white; both wings with indistinct waved white postmedial line and the cilia white.

The Nága specimen has the outer margin of hind wing angled at vein 4.

Hab. Campbellpur; Kulu; Murree; Simla; Nágas. *Exp.*, ♂ 30, ♀ 34 millim.

b. *Hind wing with veins 6, 7 stalked in both sexes.*

4078. **Euchloris radiata,** *Wlk. Cat.* xxvi, p. 1567; *C. & S.* no. 3536.

Head, thorax, and abdomen emerald-green and white. Fore wing emerald-green with white streaks in the interspaces, the most prominent being one below the cell, three beyond the cell, and a marginal series; an antemedial white band angled inwards in the cell and outwards on median nervure; an oblique postmedial sinuous band sending two teeth inwards near lower angle of cell. Hind wing white; the outer area emerald-green, with sinuous postmedial line and white streaks on the veins of outer area.

Hab. Kulu; Dharmsála. *Exp.*, ♂ 30, ♀ 36 millim.

4079. **Euchloris uvidula,** *Swinh. P. Z. S.* 1885, p. 860; *C. & S.* no. 3598.

Ochreous, striated with orange. Fore wings with curved antemedial fulvous line; both wings with dark discocellular lunule, curved postmedial fulvous line bent inwards at vein 2, and fulvous marginal line.

Hab. Bombay; Poona; Jubbulpore; Ceylon. *Exp.*, ♂ 22, ♀ 30 millim.

B. *Palpi with the 3rd joint moderate; antennæ of male bipectinate to apex, serrate in female; veins 6, 7 stalked in both sexes.*

4080. **Euchloris gracilis,** *Butl. Ill. Het.* vii, p. 104, pl. 136, fig. 4.

Bright emerald or bluish green; frons chestnut; vertex of head white. Fore wing with the costa ochreous; traces of an antemedial series of white specks; both wings with an indistinct and very slightly sinuous postmedial series of specks; cilia white.

Hab. Simla; Dharmsála; Sikhim. *Exp.* 22 millim.

C. Palpi with the 3rd joint long ; antennæ of male with the apex simple, of female simple throughout.

a. *Veins 6, 7 of hind wing from cell in both sexes.*

4081. **Euchloris quantula**, *Swinh. P. Z. S.* 1885, p. 855, pl. 56, fig. 6; *C. & S.* no. 3531.
Comibæna glareosa, *Swinh. P. Z. S.* 1885, p. 855, pl. 56, fig. 8; *C. & S.* no. 3505.

Yellowish green; vertex of head and shaft of antennæ white; both wings with rufous cell-specks and series of dark marginal specks. Underside white.

In the form *glareosa* a large rufous cell-spot is developed on hind wing.

Hab. Bombay. *Exp.*, ♂ 26, ♀ 30 millim.

b. *Veins 6, 7 of hind wing stalked.*

4082. **Euchloris inductaria**, *Guen. Phal.* i, p. 370.

Pale green; frons pink and white; vertex of thorax and abdomen pink with white spots; wings semihyaline. Fore wing with the costa pink with a white stripe, and expanding into ante- and postmedial spots; pink-ringed white antemedial spots on median nervure and inner margin, and a postmedial spot on vein 4; a marginal pink band embracing white spots, which are largest at vein 4 and inner margin of each wing; hind wing with a pink speck on discocellulars.

Hab. Dalhousie; Dharmsála; Nágas; E. Pegu: Borneo. *Exp.* 36 millim.

4083. **Euchloris dispansa**, *Wlk. Cat.* xxii, p. 574; *Hmpsn. Ill. Het.* ix, pl. 170, figs. 5, 12; *C. & S.* no. 3502.
Comibæna chlorargyra, *Wlk. Cat.* xxii, p. 577.

Differs from *inductaria* in being bright emerald-green; the dorsal white spots of abdomen smaller; the wings opaque; the costa of fore wing and cilia ochreous; some fuscous at base of costa; the white markings irregular; the ante- and postmedial spots replaced by an oblique band from middle of costa towards the expansion of the marginal markings at outer angle; a costal spot near apex, to which sometimes the marginal band runs right round and is conjoined. Hind wing without the speck at end of cell.

The oblique band from costa may be broken up into two spots; in the typical form the pink and white markings are more extensive than in *chlorargyra*.

Hab. Ceylon; Borneo. *Exp.* 22–26 millim.

D. Palpi short ; antennæ of male with the apex simple ; fore wing with veins 6 and 11 stalked with 7, 8, 9, 10.

4084. **Euchloris cærulea**, *Warr. P. Z. S.* 1893, p. 354, pl. 31, fig. 1.

♂. Differs from *pyrrhogona* in there being a slight rufous tooth

projecting from the costal fascia of fore wing at middle of cell and a long oblique postmedial tooth; a slight tooth from inner margin of fore wing near outer angle and from inner margin of hind wing beyond middle.

Hab. Sikhim. *Exp.* 30 millim.

SECT. II. (*Comostola*). Hind wings with veins 3, 4 stalked; antennæ of male bipectinated to two-thirds length; palpi with the 2nd and 3rd joints long and slender.

A. *Fore wing with the discocellulars straight; veins* 3, 4 *stalked;* 6, 7, 8, 9, 10, 11 *stalked.*

4085. **Euchloris pyrrhogona**, *Wlk. Cat.* xxxv, p. 1610; *Hmpsn. Ill. Het.* viii, pl. 156, fig. 27; *C. & S.* no. 3538.

♀. Pale blue; head rufous; a rufous dorsal stripe on vertex of thorax and abdomen. Fore wing with the costa, and both wings with the outer margin, orange-red, with black scales and spots irrorated with silver. Underside whitish.

Hab. Bombay; Nilgiris; Ceylon; Rangoon. *Exp.* 18 millim.

B. *Fore wing with the discocellulars angled at vein* 5; *the lower part of the cell being much longer than the upper part; veins* 3, 4 *and* 6, 11 *from cell.*

4086. **Euchloris subtiliaria**, *Brem. Lep. Ost-Sib.* p. 76, pl. 6, fig. 23.
Geometra meritaria, *Wlk. Cat.* xxii, p. 522; *Hmpsn. Ill. Het.* ix, pl. 170, fig. 6; *C. & S.* no. 3483.
Iodis læsaria, *Wlk. Cat.* xxii, p. 544; *C. & S.* no. 3482.
Eucrostis perlepidaria, *Wlk. Cat.* xxxv, p. 1610; *Hmpsn. Ill. Het.* viii, pl. 156, fig. 28.
Comibæna maculata, *Moore, P. Z. S.* 1867, p. 638; *C. & S.* no. 3507.
Racheospila nympha, *Butl. Trans. Ent. Soc.* 1881, p. 411.

Bright emerald-green; frons and palpi orange; vertex of head white. Fore wing with the costa ochreous; antemedial orange white-ringed specks on median nervure and inner margin; both wings with large orange white-ringed silvery-centred spot on discocellulars; a postmedial slightly curved series of white-ringed orange specks; the margin ochreous, with a series of orange, fuscous, and silvery striæ.

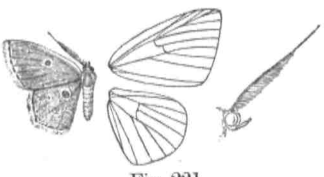

Fig. 221.
Euchloris subtiliaria, ♂. ½.

In the type of *læsaria* the specks of the postmedial series are much reduced in number; the marginal markings have no dark tints and at vein 4 of hind wing run out on to the cilia, giving the margin an angulated appearance. The typical race from Japan and the Himalayas is usually bluer green than *meritaria*; the orange

centres of the spots and specks almost entirely obsolete; the margins of both wings whitish, with the markings much reduced.

Hab. Japan; Dharmsála; Sikhim; Nilgiris; Ceylon; Australia. *Exp.*, ♂ 14, ♀ 20–22 millim.

SECT. III. Hind wing with veins 3, 4 stalked. Fore wing with the discocellulars straight; veins 3, 4 from cell; 6 and 11 from cell; the apex acute; antennæ of male bipectinated to two-thirds length; palpi short.

4087. **Euchloris signifera**, *Warr. P. Z. S.* 1893, p. 357, pl. 31, fig. 15.

♂. Head, thorax, and abdomen white. Fore wing with the basal area white with slight fuscous suffusion, its outer edge waved; the medial area bright yellow-green with a black speck at end of cell; the outer area whitish, with slight fuscous and green suffusion, especially towards costa, and with traces of a waved line, its inner edge irregular, angled below costa, and sending a strong tooth inwards below vein 2. Hind wing yellow-green, with a prominent black bar on discocellulars; the costa and outer margin white, with slight fuscous suffusion on costa and at apex; the inner edge of the marginal band waved. Underside white, with the whole fore wing except the inner area dirty green; both wings with cell-spot and waved postmedial line; two short fuscous streaks on inner area of fore wing and some fuscous at outer angle and apex of hind wing.

Hab. Momeit, Burma. *Exp.* 40 millim.

4088. **Euchloris ovifera**, *Warr. P. Z. S.* 1893, p. 358.

♂. Bright blue-green; frons pink; shaft of antennæ white. Fore wing with the costa ochreous; white antemedial specks on median nervure and vein 1; a discocellular spot; a postmedial obliquely curved series of spots on the veins. Hind wing with postmedial curved series of white specks.

Hab. Sikhim, 10,000 feet. *Exp.* 26 millim.

4089. **Euchloris efformata**, *Warr. P. Z. S.* 1893, p. 354, pl. 31, fig. 2.

♂. Pale emerald-green; frons rufous; vertex of head white; wings with the veins white. Fore wing with the costa white; an oblique postmedial white line from costa near apex; hind wing with postmedial curved white line.

Hab. Sikhim. *Exp.* 30 millim.

Genus **NEMORIA**.

Nemoria, *Hübn. Verz.* p. 285 (? 1818).
Racheospila, *Guen. Phal.* i, p. 372 (1857).

Type, *N. viridata*, Linn., from Europe.

Range. Nearctic, Palæarctic, Ethiopian, Oriental, and Australian regions.

Palpi porrect; fore wing with veins 7, 8, 9, 10 stalked, 6 and 11 being often stalked with them; 11 anastomosing with 12, and then with 10. Hind wing with the outer margin rounded; veins 3, 4 and 6, 7 stalked; frenulum present.

SECT. I. Fore wing with veins 3, 4 from cell.

A. (Nemoria). *Antennæ of male ciliated; hind tibiæ with the medial pair of spurs absent.*

a. *Palpi hardly reaching beyond the frons.*

4090. **Nemoria dispartita,** *Wlk. Cat.* xxii, p. 520; *C. & S.* no. 3438.

♀. Bright pale emerald-green; frons with a crimson band. Fore wing with traces of a white antemedial line angled below cell; both wings with an elongate white mark on the discocellulars and postmedial minutely waved line, oblique on fore wing, curved on hind wing.

Hab. Murree. *Exp.* 30 millim.

4091. **Nemoria gelida,** *Butl. Ill. Het.* vii, p. 104, pl. 136, fig. 5.

Blue-green; the frons and fore legs chestnut; vertex of head white. Fore wing with the costa pale brown; a curved and slightly sinuous antemedial white line; both wings with oblique straight postmedial line.

Hab. Dalhousie; Kulu; Dharmsála. *Exp.* 26–30 millim.

4092. **Nemoria indecretata,** *Wlk. Cat.* xxvi, p. 1555; *C. & S.* no. 3529.
Nemoria carnifrons, *Butl. P. Z. S.* 1883, p. 169; *C. & S.* no. 3487.

Pale bluish green; the frons and fore legs chestnut; the vertex of head white. Fore wing with the costa white; an oblique postmedial white line across both wings, which may be narrow or developed into a band and is usually quite straight, rarely slightly curved, at costa of fore wing.

Fig. 222.—*Nemoria indecretata*, ♂. 1/1.

Hab. Simla; Dharmsála; Mhow; Nilgiris; Ceylon. *Exp.* 22 millim.

b. *Palpi with the 2nd joint reaching well beyond the frons, the 3rd long.*

4093. **Nemoria solidaria,** *Guen. Phal.* i, p. 348; *C. & S.* no. 3494.
Iodis discessa, *Wlk. Cat.* xxii, p. 544.
Nemoria lataria, *Wlk. Cat.* xxvi, p. 1558.
Nemoria frequens, *Butl. P. Z. S.* 1881, p. 616; *C. & S.* no. 3491.

♀. Yellow-green; the frons, palpi, and fore legs red; vertex of

head white; wings striated with white; a green cell-spot and sinuous postmedial line. Underside white.

Hab. Abyssinia; Karáchi; Poona; Mhow; Ceylon; Andamans. *Exp.* 22 millim.

B. *Antennæ of male bipectinated.*

a. *Hind tibiæ of male with the medial pair of spurs absent.*

4094. **Nemoria directa,** *Wlk. Cat.* xxii, p. 535; *C. & S.* no. 3489.
Nemoria parvulata, *Wlk. Cat.* xxvi, p. 1559; *C. & S.* no. 3492.
Nemoria pruinosa, *Butl. A. M. N. H.* (5) v, p. 224; *C. & S.* no. 3493.
Geometra aperta, *Swinh. P. Z. S.* 1885, p. 855, pl. 56, fig. 7; *C. & S.* no. 3431.

Greenish ochreous; some crimson on base of shaft of antennæ; both wings with traces of nearly straight postmedial white line.

Hab. Karáchi; Bombay; Mhow; Poona; Nilgiris; Ceylon; Andamans. *Exp.* 18 millim.

4095. **Nemoria leprosa,** *Hmpsn. Ill. Het.* ix, p. 146, pl. 170, fig. 15.

♂. Olive-green; head and collar ochreous. Fore wing with broad costal ochreous fascia, the costa rufous; large ochreous patches at outer angle of fore wing and apex and anal angle of hind wing; a marginal series of ochreous specks. Underside white.

Hab. Ceylon. *Exp.* 20 millim.

b. *Hind tibiæ of male with two pairs of spurs, and a long process from extremity on the outer side.*

4096. **Nemoria detenta,** *Wlk. Cat.* xxii, p. 518; *C. & S.* no. 3436.
Geometra dissessa, *Wlk. Cat.* xxii, p. 521; *C. & S.* no. 3439.

♀. Bright yellow-green; palpi and abdomen with a rufous tinge. Fore wing with the costa white; outwardly oblique slender white ante- and postmedial lines, the latter slightly recurved to costa; both wings with slightly waved marginal band, with series of white specks on it, and expanding at outer angle of fore wing and apex of hind wing (very slightly in the form *dissessa*); the cilia rufous. Underside whitish, with a small tuft of rufous scales at end of cell of fore wing; both wings with indistinct postmedial green line.

Hab. Punjab; Nepal; Poona. *Exp.* 30–36 millim.

4097. **Nemoria quadrinotata,** *Butl. Ill. Het.* vii, p. 105, pl. 136, fig. 7

♂. Differs from *detenta* in being paler; the wings semihyaline; each wing with black speck at end of cell; a large black-brown patch at outer angle of fore wing and apex of hind wing; no marginal markings except some dark specks near apex of each wing.

Hab. Dharmsála. *Exp.* 26 millim.

4098. **Nemoria integranota,** *Hmpsn. Ill. Het.* ix, p. 146, pl. 170, fig. 13.

Differs from *detenta* in being deep emerald-green; both wings with dark speck at end of cell, and large black-brown patch at outer angle of fore wing and apex of hind wing varying in shape and size; fore wing without the pale lines; underside with no green line.

The female has a black submarginal patch on fore wing above vein 4.

Hab. Khásis; Ceylon; Burma. *Exp.*, ♂ 22, ♀ 28 millim.

SECT. II. (*Rachcospila*). Fore wing with veins 3, 4 stalked; antennæ of male bipectinated for two-thirds length; hind tibiæ with two pairs of spurs.

4099. **Nemoria smaragdus,** *Hmpsn. Ill. Het.* viii, p. 110, pl. 151, fig. 15.

♂. Yellow-green; the head white; abdomen with crimson and white spots on 1st and 4th segments. Fore wing with the costa white, irrorated with crimson; three white crimson-ringed antemedial specks, those on costa and inner margin largest; three similar postmedial specks with small white specks between them, the lowest speck at outer angle; both wings with fuscous, white, and crimson marginal waved band; the cilia pink; hind wing with the marginal markings expanding into spots at vein 4 and anal angle. Underside white.

Hab. Nilgiris. *Exp.* 18 millim.

Genus EUCROSTES.

Eucrostes, *Hübn. Verz.* p. 283 (? 1818).

Type, *E. indigenata*, Vill., from Europe.

Range. Universally distributed.

Palpi reaching just beyond the frons and roughly scaled: antennæ of male bipectinated for two-thirds length; hind tibiæ with one pair of spurs in both sexes. Fore wing with veins 3, 4 from angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 anastomosing with 12. Hind wing with the frenulum absent; the outer margin rounded; veins 3, 4 and 6, 7 stalked.

4100. **Eucrostes disparata,** *Wlk. Cat.* xxii, p. 567; *Moore, Lep. Ceyl.* iii, pl. 196, fig. 3; *C. & S.* no. 3537.
Geometra parvulata, *Wlk. Cat.* xxvi, p. 1555.

Bright yellow-green; frons and fore legs rufous. Fore wing with the costa whitish; both wings with rufous speck at end of cell; a crenulate rufous marginal line and the cilia rufous.

Hab. Bombay; Poona; Ceylon. *Exp.* 14 millim.

Genus **MAXATES.**

Maxates, *Moore, Lep. Ceyl.* iii, p. 436 (1887).

Type, *M. cœlataria*, Wlk.

Range. Throughout India, Ceylon, and Burma; Andamans.

Palpi porrect, the 2nd joint thickly scaled and reaching beyond the frons, the 3rd naked. Fore wing with the costa highly arched towards apex; the outer margin usually highly crenulate and excised between veins 4 and 6; veins 3, 4 stalked; 7, 8, 9, 10 stalked; 11 anastomosing with 12. Hind wing quadrate, with the margin highly crenulate and produced to a point at vein 6, and tail at vein 4; veins 3, 4 and 6, 7 stalked.

SECT. I. Antennæ of male bipectinated for two-thirds length, of female thickened; hind tibiæ dilated with a fold containing a tuft of long hair.

A. *Fore wing with the stalk of veins 3, 4 long; the margin crenulate from vein 4 to outer angle; hind wing with the stalks of veins 3, 4 and 6, 7 long.*

4101. **Maxates cœlataria**, *Wlk. Cat.* xxii, p. 552; *Moore, Lep. Ceyl.* iii, pl. 196, figs. 2, 2 *a*; *C. & S.* no. 3450.

Grass-green; the frons darker; vertex of head white. Fore wing with the costal area ochreous, irrorated with fuscous, narrowing at middle and apex, and widest before apex; a dark lunule on it after the middle; both wings with indistinct pale crenulate postmedial line; large fuscous-speckled ochreous patches at outer angle of fore wing and anal angle of hind wing, and a smaller patch at apex of hind wing; a fine black marginal line; hind wing with a white postmedial patch on costal area. Underside pale, with broad submarginal fuscous band, becoming obsolete towards costa of fore wing and inner margin of hind wing.

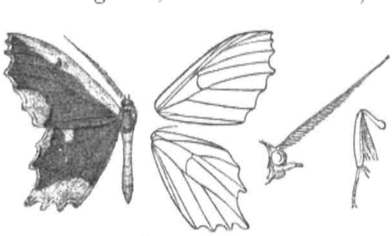

Fig. 223.—*Maxates cœlataria*, ♂. ¼.

Hab. Throughout India, Ceylon, and Burma; Andamans. *Exp.* 40 millim.

B. *Fore wing with the stalk of veins 3, 4 short; the outer margin not crenulate from vein 4 to outer angle; hind wing with the stalk of veins 3, 4 and 6, 7 much shorter.*

4102. **Maxates macariata**, *Wlk. Cat.* xxvi, p. 1562; *C. & S.* no. 3463.

Differs from *cœlataria* in both wings having the outer half brownish white, irrorated with fuscous; the edge of the green area

angled at veins 6 and 4 of fore wing, and produced to a long point on vein 3 of hind wing; no ochreous on costa of fore wing or crenulate white postmedial line on either wing; a fine marginal black line.

Hab. Sikhim; Khásis. *Exp.* 48 millim.

SECT. II. Antennæ of male ciliated; hind tibiæ not dilated; wings with the margins non-crenulate; fore wing with veins 3, 4 shortly stalked; a tuft of hair on underside beyond cell on vein 5.

4103. **Maxates xanthochlora,** *Swinh. A. M. N. H.* (6) xiv. p. 135.

♂. Greenish yellow. Fore wing with traces of diffused oblique antemedial dark band not reaching the costa; a broad medial semihyaline band; a diffused darkish submarginal band from vein 5 to inner margin. Hind wing with the basal costal area semihyaline; a waved hyaline medial line with a diffused darker shade beyond it to near outer margin. Underside white, with slight fuscous suffusion at base, and a broad fuscous postmedial band very broad on hind wing.

Hab. Khásis. *Exp.* 22 millim.

Genus PARAMAXATES.

Paramaxates, *Warr. Nov. Zool.* p. 387 (1894).
Lissolica, *Swinh. Trans. Ent. Soc.* 1894, p. 172.

Type, *P. polygrapharia*, Wlk.

Range. Sikhim; Khásis.

Differs from *Maxates* (Sect. I.) in the palpi having the 3rd joint minute in male; antennæ of male simple; frenulum absent. Fore wing with veins 3, 4 from angle of cell, 11 free; Hind wing with veins 3, 4 and 6, 7 from the angles of cell.

4104. **Paramaxates polygrapharia,** *Wlk. Cat.* xx, p. 439.
Macaria vagata, *Wlk. Cat.* xxiii, p. 927; *C. & S.* no. 4003.
Paramaxates khasiana, *Warr. Nov. Zool.* p. 387.

Yellow-green; the palpi rufous. Fore wing with patches of

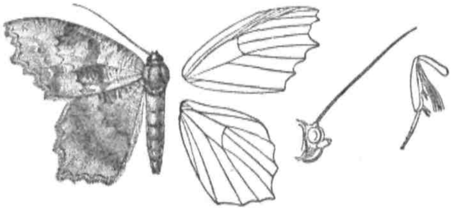

Fig. 224.—*Paramaxates polygrapharia*, ♂. ¹⁄₁.

yellow at base, on postmedial area from vein 6 to inner margin, and on outer area from apex to vein 3; some dark striæ on costal and inner medial areas; a hyaline speck at end of cell; indistinct waved ante- and postmedial lines. Hind wing with dark striated

subbasal band and diffused postmedial band; the medial and outer areas yellow. Underside whitish; the basal area of both wings and costa of fore wing grey with dark striæ; a waved medial line; a broad fuscous submarginal band from vein 5 of fore wing to inner margin of hind wing; fore wing with patches of yellow beyond cell and at apex.

Hab. Sikhim; Khásis. *Exp.* 46 millim.

Genus THALASSODES.

Thalassodes, *Guen. Phal.* i, p. 359 (1857).
Œnospila, *Swinh. Trans. Ent. Soc.* 1892, p. 5.
Gelasma, *Warr. P. Z. S.* 1893, p. 352.
Urospila, *Warr. Nov. Zool.* p. 387 (1894).
Thalerura, *Swinh. Trans. Ent. Soc.* 1894, p. 175.

Type, *T. quadraria*, Guen.

Range. Japan; Oriental and Australian regions.

Palpi with the 2nd joint clothed with hair and reaching the apex of the short frontal tuft, the 3rd naked and porrect; antennæ of male usually bipectinated to two-thirds length; hind tibiæ usually dilated with a fold containing a tuft of long hair. Fore wing with veins 6, 7, 8, 9, 10 stalked, or 6 from cell. Hind wing with the outer margin angled or produced to a point at vein 4.

SECT. I. Hind wing with veins 3, 4 and 6, 7 stalked.

A. *Fore wing with vein* 11 *from the cell.*

a. (Thalassodes). *Fore wing with veins* 3, 4 *stalked; hind wing with the outer margin angled.*

4105. **Thalassodes quadraria,** *Guen. Phal.* i, p. 360; *C. & S.* no. 3469.
Thalassodes pilaria, *Guen. Phal.* i, p. 361, pl. 15, fig. 2.
Geometra dissita, *Wlk. Cat.* xxii, p. 519; *Moore, Lep. Ceyl.* iii, pl. 194, figs. 2, 2 *a*.
Geometra semihyalina, *Wlk. Cat.* xxii, p. 528.
Thalassodes dissepta, *Wlk. Cat.* xxii, p. 550; *C. & S. no.* 3453.
Thalassodes immisaria, *Wlk. Cat.* xxii, p. 553.
Thalassodes depulsata, *Wlk. Cat.* xxii, p. 555.
Thalassodes inconclusaria, *Wlk. Cat.* xxii, p. 556.
Geometra digressa, *Wlk. Cat.* xxii, p. 513.

Blue-green; the frons and palpi red; vertex of head white; wings semihyaline, with numerous pale striæ. Fore wing with the costa fulvous; ante- and post-medial indistinct pale straight oblique lines. Hind wing with indistinct postmedial line, produced to a point and angled at vein 3; both wings with the cilia ochreous at tips or wholly ochreous. Underside whitish.

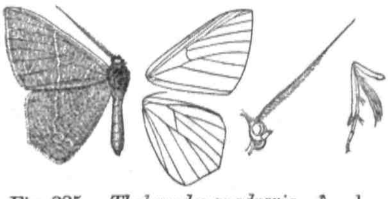

Fig. 225.—*Thalassodes quadraria*, ♂. 1/1.

Hab. Throughout India, Ceylon, and Burma; the Malayan sub-region and Australian region. *Exp.* 38 millim.

4106. **Thalassodes veraria,** *Guen. Phal.* i, p. 360.
Thalassodes opalina, *Butl. A. M. N. H.* (5) vi, p. 214; *C. & S.* no. 3466.

Differs from *quadraria* in having the frons green.

Hab. Himalayas; Khásis; Nágas; Nilgiris; Ceylon; Java. *Exp.* 38 millim.

4107. **Thalassodes albomaculata,** *Hmpsn. Ill. Het.* ix, p. 145, pl. 170, fig. 19.

Differs from *veraria* in the abdomen having a dorsal series of white spots. Fore wing with the costa white; an antemedial white spot on inner margin. Both wings with postmedial series of white specks, straight on fore wing, curved on hind wing, and terminating in a white spot on inner margin of each wing; the cilia dark, with a series of white spots on them.

Hab. Ceylon. *Exp.* 42 millim.

4108. **Thalassodes chloropis,** *Meyr. Trans. Ent. Soc.* 1886, p. 204.

♂. Differs from *veraria* in the costa of fore wing being narrowly ochreous; the antemedial line of fore wing and postmedial line of both wings green and waved; the cilia green.

Hab. Jaintia Hills; Fiji. *Exp.* 40 millim.

b. *Fore wing with veins* 3, 4 *from angle of cell.*

a'. *Hind wing with the outer margin angled at vein* 4.

a². *Hind legs of male clothed with rough hair; the tibiæ without spurs and with a very large tuft of long hair from base.*

4109. **Thalassodes marinaria,** *Guen. Phal.* i, p. 361.
Geometra discissa, *Wlk. Cat.* xxii, p. 517; *C. & S.* no. 3437.
Geometra penicillata, *Wlk. Cat.* xxii, p. 525.

♂. Bluish green; the frons red; vertex of head white; wings semihyaline, with numerous pale striæ. Fore wing with the costa ochreous; both wings with very faint traces of a waved postmedial line; the cilia fuscous, with dark specks at the veins.

Hab. Moulmein; Borneo. *Exp.* 48 millim.

b². (Œnospila). *Hind tibiæ of male without the terminal pair of spurs; palpi of female with the 3rd joint very long.*

4110. **Thalassodes flavifusata,** *Wlk. Cat.* xxii, p. 596; *Moore, Lep. Ceyl.* iii, pl. 194, figs. 3, 3 *a*; *C. & S.* no. 3481.
Thalassodes sinuata, *Moore, P. Z. S.* 1867, p. 637; *C. & S.* no. 3471.

Emerald-green; vertex of head white. Fore wing with the costa white, except at base; an indistinct dentate red antemedial line ending in a spot on inner margin; both wings with a crimson speck at end of cell; a dentate postmedial line ending in a spot on

inner margin of each wing; a marginal crimson line and series of white specks on the veins. Underside white.

Hab. Sikhim; Ceylon; Java; Borneo. *Exp.*, ♂ 24, ♀ 30 millim.

4111. **Thalassodes strix,** *Butl. Ill. Het.* vii, p. 105, pl. 136, fig. 8.

Differs from *flavifusata* in the dentate lines being browner; no marginal white specks or crimson line, but a series of crimson specks on the cilia. Hind wing with a large black patch on middle of inner margin.

Hab. Dharmsála; Sikhim; Khásis. *Exp.* 32 millim.

c². (Gelasma). *Hind tibiæ of male with two pairs of spurs, and dilated with a fold containing a tuft of long hair.*

a³. *Antennæ of male bipectinated.*

4112. **Thalassodes thetydaria,** *Guen. Phal.* i, p. 358; *C. & S.* no. 3533.

Thalassodes bifasciata, *Wlk. Cat.* xxvi, p. 1562; *C. & S.* no. 3451.

♀. Silvery white, with fuscous irroration; frons green. Fore wing with diffused green antemedial band, patch at end of cell, oblique postmedial band, and marginal band. Hind wing with diffused green patch at end of cell, postmedial band angled at vein 3, and traces of marginal band. Underside white.

Hab. Sikhim; Sylhet. *Exp.* 40 millim.

4113. **Thalassodes glaucaria,** *Wlk. Cat.* xxxv, p. 1613; *C. & S.* no. 3457.

Gelasma irregularis, *Warr. Nov. Zool.* p. 392.

Differs from *thetydaria* in being more thickly irrorated and somewhat suffused with olive fuscous. Fore wing with waved dark white-edged antemedial line, and both wings with similar postmedial line replacing the diffused bands; no marginal band.

The N.W. Himalayan form is much smaller than the Sikhim form.

Hab. Dharmsála; Sikhim; Bhután; Nilgiris. *Exp.* 30–40 millim.

4114. **Thalassodes opalaria,** *Guen. Phal.* i, p. 357; *C. & S.* no. 3530.]

Thalera subtractata, *Wlk. Cat.* xxvi, p. 1753; *C. & S.* no. 3486.

Differs from *thetydaria* in having the diffused ante- and postmedial band waved.

Hab. Sikhim; Khásis; Margharita, Assam; Nágas. *Exp.* 22 millim.

4115. **Thalassodes griseoviridis,** *Warr. P. Z. S.* 1893, p. 353, pl. 31, fig. 6.

♂. Greenish grey; frons rufous; vertex of head white. Fore

wing with waved white antemedial line; both wings with dark lunule on discocellulars; a waved white postmedial line angled at vein 3 of hind wing. Underside whitish.

Hab. Khásis; Nágas, 6000 feet. *Exp.* 26 millim.

4116. **Thalassodes gavissima,** *Wlk. Cat.* xxii, p. 575; *Moore, Lep. Ceyl.* iii, pl. 196, fig. 6; *C. & S.* no. 3497.

♂. Yellow-green; the palpi and vertex of head white; thorax and abdomen marked with white; wings with white markings. Fore wing with basal and subbasal spots; waved antemedial band with spot on its inner edge below cell; two spots at end of cell; a waved postmedial band dentate on inner area and merging into a large purplish-fuscous patch on costal area; two submarginal and a marginal series of spots. Hind wing with white spots on the basal area; a highly waved medial band; postmedial, submarginal, and marginal series of white spots. Underside white, with black-brown patches near apex of each wing, largest on hind wing.

♀ with some crimson specks on thorax and abdomen; wings with rufous edges to the white markings. Fore wing with a crimson patch beyond the postmedial line on inner area. Hind wing with the basal area yellow and crimson.

Hab. Simla; Sikhim; Ceylon. *Exp.*, ♂ 34, ♀ 40 millim.

4117. **Thalassodes textilis,** *Butl. A. M. N. H.* (5) vi, p. 219; *id. Ill. Het.* vi, pl. 117, fig. 10; *C. & S.* no. 3514.

Differs from *divapala* in the head being brownish ochreous; the thorax, abdomen, and wings slightly irrorated with white; the wings semihyaline; the submarginal white line with white patches at costa, middle, and inner margin of each wing; all the other white markings slight. Underside without the brown spots.

Hab. Sikhim. *Exp.* 36 millim.

b³. *Antennæ of male with fascicles of cilia.*

4118. **Thalassodes divapala,** *Wlk. Cat.* xxii, p. 575; *Moore, Lep. Ceyl.* iii, pl. 195, figs. 2, 2 *a* (larva); *C. & S.* no. 3503.
Thalera albisparsa, *Wlk. Cat.* xxii, p. 600.
Comibæna albiceps, *Feld. Reis. Nov.* pl. 127, fig. 13.

♂. Green; the frons rufous; vertex of head white; thorax, abdomen, and wings irrorated with white. Fore wing with the costa ochreous, speckled with brown; an indistinct waved white antemedial line; a large patch at end of cell; a lunulate postmedial line with white patches at middle; submarginal and marginal series of white spots, the two at middle largest. Hind wing with the basal half very thickly irrorated; indistinct waved postmedial, submarginal, and marginal white bands; a green speck at end of cell. Underside white, with brown spots before and beyond middle of costa of fore wing and near apex of hind wing.

♀ with the white irroration slight; both wings with antemedial waved white line; spot at end of cell of fore wing, and

speck to hind wing; a waved white postmedial line, with the area beyond it ochreous, suffused with red brown at outer angle of fore wing and throughout in hind wing; cilia rufous.

Larva with subdorsal expansions to the somites; the 11th somite with a conical protuberance; colour olive-green, the thoracic and 9th and 10th somites purple-brown. Food-plant *Myrtus*.

Hab. Sikhim; Ceylon; Andamans; Borneo; Amboina. *Exp.* 30 millim.

4119. **Thalassodes semialba,** *Wlk. Cat.* xxii, p. 601; *Moore, Lep. Ceyl.* iii, pl. 196, figs. 1, 1 *a*; *C. & S.* no. 3513.

Head purplish grey; thorax green; abdomen whitish. Fore wing with the basal costal half purplish red-brown; the inner area green; waved ante- and postmedial white lines, becoming dark and edged with purplish grey on the brown area; an olive tuft at end of cell; the outer area white, with green patches at apex and outer angle; a waved white submarginal line. Hind wing with the basal area green, bounded by a medial line retracted to inner margin; the outer area white, with some green towards inner margin and sometimes with interrupted postmedial purplish band. Underside white; fore wing with the basal half irrorated with dark red-brown, sending a spur outwards to join a blackish submarginal spot below vein 4; some green on costa before apex; hind wing with blackish spot on costa before apex; sometimes with three submarginal spots and one near outer angle of fore wing.

Hab. Bombay; Ceylon; Borneo. *Exp.* 28 millim.

c³. *Antennæ of male minutely ciliated.*

4120. **Thalassodes ophthalmicata,** *Moore, P. Z. S.* 1867, p. 637; *C. & S.* no. 3467.

Yellow-green, slightly striated with olive; frons fuscous. Fore wing with curved and slightly waved olive antemedial line; a brown cell-speck; both wings with postmedial olive line slightly curved on hind wing; traces of a submarginal series of olive spots; hind wing with black annulus at end of cell. Underside slightly suffused with fuscous.

Hab. Sikhim; Nágas. *Exp.*, ♂ 36, ♀ 44 millim.

d². *Hind tibiæ of male not dilated and with two pairs of spurs; antennæ bipectinated to apex in both sexes; hind wing with the anal angle lobed.*

4121. **Thalassodes pastor,** *Butl. A. M. N. H.* (5) vi, p. 216; *id. Ill. Het.* vi, pl. 117, fig. 13; *C. & S.* no. 3535.

Pale yellowish green; the vertex of head white. Fore wing with a reddish-yellow basal patch, with some green spots on it and a curved white band near its outer edge; a white mark on disco-

cellulars; an angled white band with reddish edges across apical area; a yellow marginal band, with reddish edges and a white band inside it, becoming dentate towards costa and expanding into a large patch with a white mark on it at outer angle, extending almost to middle of inner margin. Hind wing with sinuous postmedial reddish-edged white band, running out to an angle on vein 2; a broad marginal yellow band, with a rufous band on it and some pink near apex and anal angle; a marginal rufous line; the inner margin whitish. Underside white.

Hab. Sikhim. *Exp.*, ♂ 44, ♀ 48 millim.

4122. **Thalassodes sanguilineata,** *Moore, P. Z. S.* 1867, p. 638; *C. & S.* no. 3511.

♂. Differs from *pastor* in the fore wing having the basal area white, with a slight green band on it. Hind wing without the postmedial angled line; the outer area whitish and ochreous, extending inwards along the costal and inner margins, with a curved green postmedial line bent inwards and merged into pink patches at costal and inner margins; an evenly curved purplish-pink submarginal band, expanding into a pink patch at anal angle.

Hab. Nepal; Sikhim; Khásis. *Exp.* 44 millim.

b′. (Thalerura). *Hind wing with the outer margin produced to a long point at vein 4.*

4123. **Thalassodes acutissima,** *Wlk. Cat.* xxii, p. 596; *Moore, Lep. Ceyl.* iii, pl. 196, fig. 7; *C. & S.* no. 3475.
Timandra goniaria, *Feld. Reis. Nov.* pl. 128, fig. 3; *C. & S.* no. 3440.
Thalera aculeata, *Hmpsn. Ill. Het.* viii, p. 109, pl. 150, fig. 5.
Thalerura prasina, *Warr. Nov. Zool.* p. 392.
Thalerura veninotata, *Warr. Nov. Zool.* p. 678.

Green; the frons and fore legs crimson; vertex of head white; wings semihyaline. Fore wing with the costa ochreous; an indistinct straight oblique antemedial pale line; both wings with oblique pale postmedial line, straight in the typical Ceylon form, waved on inner half of hind wing in *aculeata* from the Nilgiris, waved throughout in the Burmese form, and reduced to specks in the form *veninotata*; a fine dark marginal line and the cilia ochreous. Underside white.

Hab. Bhután; Khásis; Calcutta; Khandála; Nilgiris; Ceylon; Burma. *Exp.* 38 millim.

4124. **Thalassodes dissimulata,** *Wlk. Cat.* xxii, p. 551; *C. & S.* no. 3454.
Thalassodes illiturata, *Wlk. Cat.* xxvi, p. 1563.
Thalerura marginata, *Warr. Nov. Zool.* p. 392.

Differs from *acutissima* in being very dull green; the frons rufous. Fore wing with the costa irrorated with fuscous; the antemedial line and postmedial line of both wings waved and dark green with white edges; the cilia fuscous.

Hab. Shanghai; Bhután; Nágas; Moulmein; Ceylon. *Exp.* 36 millim.

4125. **Thalassodes inaptaria,** *Wlk. Cat.* xxvi, p. 1560; *C. & S.* no. 3459.
Thalassodes urapteraria, *Wlk. Cat.* xxxv, p. 1608; *C. & S.* no. 3473.

♀. Differs from *dissimulata* in the frons being blackish; the cilia whitish, with a fine black line before them. Underside with a broad purplish-fuscous band from vein 6 of fore wing to anal angle of hind wing, broadest at costa of hind wing, and with some striæ near it.

Hab. Sikhim; Assam. *Exp.* 44 millim.

B. *Fore wing with vein* 11 *stalked with* 6, 7, 8, 9, 10; 3, 4 *stalked; hind tibiæ of male with one pair of spurs.*

4126. **Thalassodes rubrolimbraria,** *Guen. Phal.* i, p. 386; *Moore, Lep. Ceyl.* iii, pl. 195, fig. 5; *C. & S.* no. 3470.
Thalassodes diserta, *Wlk. Cat.* xxii, p. 553.
Thalassodes simpliciaria, *Wlk. Cat.* xxii, p. 553.

Yellowish green; the fore legs pinkish; both wings with a bright pink marginal line; fore wing with traces of oblique postmedial line.

Hab. Moulmein; Ceylon; Borneo. *Exp.* 18 millim.

4127. **Thalassodes obnupta,** *Swinh. P. Z. S.* 1885, p. 855, pl. 56, fig. 9; *C. & S.* no. 3484.
Thalassodes melica, *Swinh. Trans. Ent. Soc.* 1891, p. 144.

♂. Yellow-green; both wings with nearly straight pale postmedial line. Underside whitish.

Hab. Bombay; Poona; Calcutta; Ceylon. *Exp.* 18 millim.

SECT. II. (*Urospila*). Hind wing with veins 3, 4 and 6, 7 from angles of cell.

A. *Hind tibiæ of male with one pair of spurs, and without fold and tuft.*

4128. **Thalassodes uniformis,** *Hmpsn. Ill. Het.* viii, p. 110, pl. 150, fig. 11.

♂. Bluish green; antennæ ochreous; both wings with slight dark mark on discocellulars; a postmedial series of white specks; the cilia grey at tips.

Hab. Nilgiris. *Exp.* 38 millim.

B. *Hind tibiæ of male not dilated, and with two pairs of spurs.*

4129. **Thalassodes avicularia,** *Guen. Phal.* i, p. 342; *C. & S.* no. 3432.
Geometra pennisignata, *Wlk. Cat.* xxii, p. 516.
Geometra submonstrans, *Wlk. Cat.* xxii, p. 526.

Pea-green; the vertex of head white. Fore wing with the costa whitish; an indistinct waved antemedial line; both wings

with **V**-shaped brown cell-spot; an indistinct waved postmedial line and the cilia brown; hind wing with the margin very slightly angled.

Hab. Punjab; Nepal; Sikhim; Khásis; Borneo. *Exp.* 45 millim.

4130. **Thalassodes lineata,** *Moore, P. Z. S.* 1872, p. 580, pl. 34, fig. 2; *C. & S.* no. 3443.

♀. Differs from *avicularia* in the costa of fore wing being marked with rufous; the antemedial line of fore wing and postmedial line of both wings straight and pale yellow; hind wing with the margin more prominently angled and with a brown spot at the angle.

Hab. Sikhim; Burma. *Exp.* 52 millim.

C. *Hind tibiæ of male dilated with a fold containing a tuft of long hair.*

4131. **Thalassodes variegata,** *Butl. Ill. Het.* vii, p. 104, pl. 136, fig. 3.

Bluish green, irrorated with grey. Fore wing with some rufous marks on the costa; some grey specks at base; a curved grey antemedial band with a dark line on it; both wings with a postmedial grey band with a waved line on it, oblique on fore wing and connected with some striated marks near outer angle, on hind wing expanding below vein 6 and covering nearly the whole outer area; fore wing with a brown mark on yellowish patch at apex. Underside with the inner area of fore wing and the whole hind wing, except the marginal area, whitish.

Hab. Murree; Dharmsála; Khásis. *Exp.*, ♂ 44, ♀ 50 millim.

4132. **Thalassodes vallata,** *Butl. Ill. Het.* ii, p. 50, pl. 36, fig. 9.

Bluish green, irrorated with olive-yellow. Fore wing with the costa ochreous and black speckled; nearly straight olive-yellow ante- and postmedial lines arising from black specks on costa, the former inwardly edged by white, the latter outwardly and becoming medial on hind wing; both wings with faint traces of a waved submarginal line; the cilia olive; a black spot at the angle on hind wing.

Hab. Japan; Sikhim; Khásis. *Exp.*, ♂ 30–34, ♀ 42 millim.

Genus THALERA.

Thalera, *Hübn. Verz.* p. 285 (? 1818).
Berta, *Wlk. Cat.* xxvi, p. 1621 (1862).
Hemistola, *Warr. P. Z. S.* 1893, p. 353.
Leucoglyphica, *Warr. Nov. Zool.* p. 391 (1894).

Type, *T. fimbrialis*, Scop., from Europe.

Range. Europe; Japan; Sikhim; Khási and Nága Hills; Canara; Nilgiris; Ceylon.

Palpi minute and hardly reaching beyond the frons; antennæ of male bipectinated usually to apex. Fore wing with vein 3 from near angle of cell; 7, 8, 9, 10 stalked; 11 anastomosing with 12 and then with 10. Hind wing with the frenulum absent; the outer margin angled at vein 4; 6, 7 stalked.

SECT. I. (*Hemistola*). Hind wing of male with the outer margin not excised between veins 6 and 4; vein 3 from near angle of cell; hind tibiæ with two pairs of spurs.

A. *Antennæ of male bipectinated to apex.*

4133. **Thalera rubrimargo**, *Warr. P. Z. S.* 1893, p. 354, pl. 31, fig. 3.

♂. Bluish green; frons and fore legs crimson; wings semi-hyaline; both wings with a pale lunulate postmedial line; the cilia crimson at tips. Fore wing with the costa crimson, and with a pale lunulate antemedial line.

Hab. Sikhim. *Exp.* 34 millim.

B. *Antennæ of male bipectinated to two-thirds length.*

4134. **Thalera caudularia**, *Guen. Phal.* i, p. 349; *C. & S.* no. 3488.
Thalassodes nanda, *Wlk. Cat.* xxii, p. 552; *C. & S.* no. 3465.
Thalera costipunctata, *Moore, Lep. Ceyl.* iii, p. 428, pl. 195, fig. 4; *C. & S.* no. 3477.
Thalera undularia, *Hmpsn. Ill. Het.* viii, p. 109, pl. 151, fig. 2.

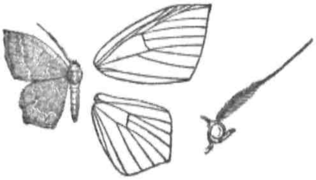

Fig. 226.—*Thalera caudularia*, ♂. ½.

Yellow-green; frons olive; vertex of head white; both wings with dentate white ante- and postmedial lines, the latter excurved between veins 2 and 4 of hind wing. Underside white.

Hab. Sikhim; Nilgiris; Ceylon. *Exp.* 24 millim.

4135. **Thalera argutaria**, *Wlk. Cat.* xxxv, p. 1614; *C. & S.* no. 3476.
Gelasma concolor, *Warr. P. Z. S.* 1893, p. 352.

Yellowish green; the vertex of head white. Both wings with slightly waved and curved green-edged white antemedial line; a green-edged hyaline speck at end of cell, and highly crenulate white postmedial green-edged line bent outwards between veins 2 and 4 of each wing. Underside white.

Hab. Sikhim; Khásis. *Exp.* 30 millim.

4136. **Thalera unifascia**, *Hmpsn. Ill. Het.* viii, p. 110, pl. 151, fig. 7.

♂. Yellow-green; frons chestnut; vertex of head white. Fore wing with the costa brown; both wings with traces of discocellular

mark and indistinct slightly curved postmedial green line, retracted to costa of fore wing and to inner margin of hind wing. Underside with the hind wing and inner area of fore wing whitish.

Hab. Nilgiris. *Exp.* 32 millim.

4137. **Thalera viata,** *Moore, Lep. Ceyl.* iii, p. 431, pl. 195, fig. 6; *C. & S.* no. 3495.

♀. Yellow-green. Fore wing with nearly straight green-edged white ante- and postmedial lines. Hind wing with dark line on discocellulars and slightly curved green-edged white postmedial line. Underside white.

Hab. Ceylon. *Exp.* 24 millim.

4138. **Thalera pallescens,** *Hmpsn. Ill. Het.* viii, p. 108, pl. 151, fig. 3.

White; the frons, thorax, and abdomen suffused with grey-green; wings semihyaline, with broad medial grey-green band bounded by the ante- and postmedial lines which are white, the former obliquely sinuous on fore wing, oblique and straight on hind wing, the latter sinuous on fore wing and curved on hind wing; slight white marks on discocellulars; slight grey-green diffused patches beyond the postmedial line of each wing.

Hab. Nilgiri plateau. *Exp.* 32 millim.

C. *Antennæ bipectinate in both sexes.*

4139. **Thalera liliana,** *Swinh. Trans. Ent. Soc.* 1892, p. 7, pl. 1, fig. 2.

♀. Blue-green; frons ochreous; abdomen ochreous, except the basal segment; some crimson on dorsum. Fore wing with the costa ochreous, irrorated with fuscous; a waved antemedial white line; both wings with lunulate postmedial white line; cilia white, tipped with crimson, and with ochreous and fuscous specks at the veins. Underside white.

Hab. Khásis. *Exp.* 54 millim.

Sect. II. (*Thalera*). Hind wing of male with the outer margin excised between veins 6 and 4; veins 3, 4 stalked; hind tibiæ of male dilated with a fold and tuft and two pairs on spurs in the Indian forms; not dilated and with one pair of spurs in the European.

A. *Hind wing of female excised.*

4140. **Thalera chrysolineata,** *Wlk. Cat.* xxvi, p. 1621; *Moore, Lep. Ceyl.* iii, pl. 196, fig. 4; *C. & S.* no. 3496.

Olive-green; frons rufous; vertex of head white; abdomen with dorsal white spots; wings with numerous irregular white spots often conjoined into bands. Fore wing with spots at base and

end of cell; antemedial, oblique medial, sinuous submarginal, and almost marginal series of spots. Hind wing with spots on basal area and end of cell; a curved medial series, and sinuous postmedial and submarginal series. Underside white.

Hab. Sikhim; Khásis; Canara; Ceylon. *Exp.* 26 millim.

B. *Hind wing of female not excised between veins 6 and 4.*

4141. **Thalera acte**, *Swinh. Trans. Ent. Soc.* 1892, p. 6, pl. 1, fig. 13.
Berta albiplaga, *Warr. P. Z. S.* 1893, p. 357, pl. 31, fig. 5.

Differs from *chrysolineata* in the markings of the fore wing being reduced and fine. Hind wing with a broad irregular white medial band angled at vein 4, the other markings reduced and small.

Hab. Sikhim; Khásis; Nágas; Ceylon. *Exp.* 22–30 millim.

Species formerly recorded as Indian which are omitted.

Anaitis curvilineata, Wlk., C. & S. no. 3906. Type lost; description not recognizable.

Agathia diversiformis, Warr. Nov. Zool. p. 380 = *A. gigantea*, Butl. A. M. N. H. (5) vi, p. 217, is from Sumatra and Java.

Angerona crœsaria, Herrich-Schäffer, C. & S. no. 3157 = *sodaliata*, Wlk. = *costalis*, Wlk., is from Africa.

Abraxas couaggaria, Guen., C. & S. no. 3728, is from Japan.

Abraxas hypsata, Feld., C. & S. no 3733 = *Halthia clara* and *punctifera*, Wlk., is from Timor and Bouru.

Abraxas labraria, Guen., C. & S. no. 3735, is from Java.

Amphidasys cladonia, Feld., C. & S. no. 3251, is probably from Brazil.

Anisodes pyriniata, Wlk., C. & S. no. 3580. Type lost; description not recognizable.

Almodes repleta, Wlk., C. & S. no. 3549, is from America.

Boarmia ceylonaria, Nietn., C. & S. no. 3313. Type lost; description not recognizable.

Boarmia diffluaria, Wlk., C. & S. no. 3319. Type lost; description not recognizable.

Boarmia exclusaria, Wlk., C. & S. no. 3321. Type lost; description not recognizable.

Boarmia suasaria, Guen., C. & S. no. 3337. Probably not Indian.

Boarmia vicaria, Wlk., C. & S. no. 3340, is from S. America, not Sylhet.

Boarmia ceylanicaria, Nietn. Edinb. New Phil. Journ. xv, 1862, p. 38. Type lost; description not recognizable.

Callabraxas languidata, Wlk., C. & S. no. 3726, is from Japan.

Cyclidia plagidotata, Wlk., C. & S. no. 3126 = *Mardara plagidotata*, Vol. I, p. 454.

Collix contributaria, Wlk., C. & S. no. 3888. Type lost; description not recognizable.

Camptogramma blitearia, Wlk., C. & S. no. 3894. Type lost; description not recognizable.

Cidaria montanata, Schiff., C. & S. no. 3860, is from Europe.

Callipia parrhasiata, Guen., C. & S. no. 3886, is from S. America.

Elphos scolopaiea, Drury, C. & S. no. 3400, is from the W. Indies.

Entomopteryx amputata, Guen., C. & S. no. 3198, is from the Malay Archipelago.

Eupithecia coffearia, Nietn. Edinb. New Phil. Journ. 1862, xv, p. 38. Type lost; description not recognizable.

Euschema discalis, Wlk., C. & S. no. 3079, is from Penang.

Euschema malayana, Guen., C. & S. no. 3083, is from the Malayan subregion.

Ephyra pendularia, Linn. = *vusarmana*, Wlk., C. & S. no. 3554, is from Europe, not Ceylon.

Emodes sinuosa, Moore, C. & S. no. 4004, is a Drepanulid allied to *Teldenia*.

Gnophos miscellaria, Guen., C. & S. no. 3409, is probably not Indian.

Gnophos mucidaria, Hübn., C. & S. no. 3410, is from Europe.

Gnophos stoliczkaria, Moore, C. & S. no. 3415, is from Yarkand.

Hypochrosis jasminaria, Guen., C. & S. no. 3707 = *lycoraria*, Guen., is from Sumatra and Borneo.

Hyria griseipennis, Hmpsn. Ill. Het. viii. p. 124, pl. 153, fig. 11, is a Noctuid of the genus *Micræschus*.

Hyria vinacea, Hmpsn. Ill. Het. viii, p. 124, pl. 153, fig. 4, is a Noctuid, allied to *Micræschus*.

Hyria rhodinaria, Wlk., C. & S. no. 3971. Type lost; description not recognizable.

Idæa subdeterminata, Wlk., C. & S. no. 3949. Type lost; description not recognizable.

Litbada sericearia, Wlk., C. & S. no. 3220 = *Oxydia mexicata*, Guen. = *artaxa*, Druce, is from the Neotropical region.

Lycauges carnosa, Hmpsn. Ill. Het. ix, p. 150, pl. 169, fig. 9, is a Noctuid near *Oruza*.

Lycauges postvittata, Moore, C. & S. no. 3757, is a Noctuid = *Oruza anisodoides*, Hmpsn. Vol. II, p. 349.

Macaria cessaria, Wlk., C. & S. no. 3607. Type lost; description not recognizable.

Macaria subcaudaria, Wlk., C. & S. no. 3615. Type lost; description not recognizable.

Macaria posticaria, Wlk., C. & S. no. 3613. Type lost; description not recognizable.

Macaria solitaria, Wlk., C. & S. no. 3614. Type lost; description not recognizable.

Pyrinia martiata, Guen., C. & S. no. 3193, is from Borneo and Java.

Phalæna canente, Cram. Pap. Exot. iii, pl. 250 C, from 'Coromandel'; locality doubtful; figure not good enough to identify, possibly = *Hypochrosis hyadaria*, Guen. (*ante*, p. 172).

Phalæna carinenta, Cram., C. & S. no. 3312, is from America.

Phalæna immacularia, Fabr., C. & S. no. 3528, not identifiable.

Percnia confusa, Warr. Nov. Zool. p. 415, is a *Dilophodes*, probably from China.

Phibalapteryx hydrocampata, Guen., C. & S. no. 3900, is a Noctuid = *Acidalia posticaria*, Wlk. Cat. xxxv. p. 1633 = *Oruza fratercula*, Vol. II, p. 349.

Pogonopygia nigralbata, Warr. Nov. Zool. p. 681, is probably from China, not the Khásis.

Sarbaria contractaria, Wlk., C. & S. no. 3424. Type lost; description not recognizable.

Terpnomicta nigrarenaria, Wlk., C. & S. no. 3595. Type lost; description not recognizable.

Tephrina scotosiaria, Wlk., C. & S. no. 3628. Type lost; description not recognizable.

Tephrina infirmata, Wlk., C. & S. no. 3622. Type lost; description not recognizable.

Thaleridia pruinosa, Moore, C. & S. no. 3752, is a Drepanulid = *Drepana quinaria*, Vol. I, p. 335.

Thera kashghara, Moore, C. & S. no. 3892, is from Yarkand.

Thalassodes chlorozonaria, Wlk., C. & S. no. 3452. Type lost; description not recognizable.

Thalassodes fimbriaria, Wlk., C. & S. no. 3456. Type lost; description not recognizable.

Thalassodes indeterminata, Wlk., C. & S. no. 3460. Type lost; description not recognizable.

Thalera albannularia, Wlk., C. & S. no. 3474. Type lost; description not recognizable.

Timandra albifrontata, Moore, C. & S. no. 3989, belongs to a new genus of *Acontiinæ*.

NOTE.—The species quoted in this Volume and in Vol. II. with the reference *Swinh. MS.* will be found described in the 'Annals and Magazine of Natural History' for December 1894 and January 1895. The first of these numbers appeared when the text of the present volume had been passed for press and the greater portion printed.

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